Thesis Research Project - Report

4413TRP30Y Thesis Research Project

Investigating the long-term effectiveness of an organisation;
A methodology developed and applied to
the Port Authorities of Rotterdam and Antwerp

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MSc Study Programme Industrial Ecology

INDUSTRIAL ECOLOGY INNOVATIVE BY NATURE

TUDelft
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Cover page: *'Seaport' by Elies Auer*

'The city built by man, yet grown to inhuman scale. My cities are built on canvas. They arise from imagination, their 'sound' captured through an intricate web of lines and shades evoking mood and time of day.'
(www.eliesauer.nl)

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Preface

This report presents a Thesis Research Project of the Master program Industrial Ecology. In the preliminary phase, I oriented on finding a research topic within the overlap of industry, sociology and ecology. My main criterion therefore was a significant industrial, sociological and ecological related relevance. The topic in focus originates from an inspiring Sunday morning conversation after which it quickly flourished towards a fruitful study, widely supported by those involved.

The performed investigation of organisational effectiveness with respect to ecological responsible port development addresses the tension field between the fact that international seaports are crucial for world economy and at the same time have a high potential for causing environmental impact. Industrial development projects this way can ask for certain organisational characteristics and working approaches, which in case of their absence can lead to non ignorable resistances during the project realisation. With respect to this tension field the need rises to gain more insights about the extent to which experiences during previous large-scale projects have positively or negatively affected organisational effectiveness on the long-term.
Therefore my goal was to provide a user-friendly methodology by which organisations, that aim to develop in an effective and ecological responsible way, can investigate their organisational characteristics and working approach and how these relate to their organisational effectiveness with respect to large-scale development projects.

Chapter 1 represents the introduction to the research. It includes the definition of the research context based on an extensive literature study. Then, the related research goals are presented together with their relevance. With respect to the aim of achieving these goals, problems are stated and formulated into the research questions. Answering these research questions would solve the problems and thereby lead to achievement of the goals. Subsequently in chapter 2, process towards the establishment of the methodological framework is extensively described and argued. After presentation of the framework the working approach is explained that should be followed when applying it. The framework is then applied to two selected cases, namely the Port of Rotterdam Authority (with respect to the Maasvlakte 2) and the Port of Antwerp Authority (with respect to the Deurganckdok). This is done via interview formats according to the selected methods included in the framework. Interviews were conducted with a set of employees across the Port Authorities that were selected according to the organisational elements distinguished by Mintzberg (2006). In chapter 3 the results are presented that were developed from processing the input gained from the interviews. The results include the organisational structure and –culture typifications and the working approach of the Port Authorities in times of their projects and nowadays. By analysing the typifications and working approaches from different points of view, I aimed to identify the long-term effect of the Maasvlakte 2 and Deurganckdok projects on the related Port Authority. This analysis phase and my interpretation of the observations are covered in chapter 4. Based on my experience until this point, in chapter 5 I discus the ability of the case study results to answer the defined research questions and the usability of the framework after its application. After completion of previous chapters, the experiences and insights gained are the input for drawing final conclusions, providing recommendations and final reflections.

Since that specific Sunday morning conversation, a new dimension grew in my world of interests. This research has enriched me with knowledge and understanding about the Port of Rotterdam and of Antwerp, the Port Authorities and the arising internal and external dynamics when realising new strategies in form of large-scale development projects. Therefore, I am very thankful to those who have made this research possible.

On the first place I would like to thank and acknowledge my supervising committee: Gerard Dijkema, Tiedo Vellinga, Jill Slinger and Rob Stikkelman. They have accelerated my understanding about the defined research context with their knowledge, experiences and contacts in the field. I highly appreciate their valuable input on content level and their extent of involvement, critical perceptions and suggestions along performance of the research and writing the report. Their input has brought my research to a higher level of scientific value.

With respect to the initial steps of my research, I would like to thank Dirk Koppenol who provided me with a valuable dose of input when defining and getting to understand the research context and Marcel Taal who provided me with valuable contacts in the Port of Antwerp.

Furthermore, special thanks and acknowledgement goes to René van der Plas, Tiedo Vellinga and Toon Tessier whom provided me their support when approaching potential interviewees within the Port Authorities. Also special thanks and acknowledgment is directed to all these interviewees for their time, openness and effort.

To finalize, many thanks and acknowledgement especially goes to my family and friends for the loving support, interest, advice and valuable feedback.

Hester Engelsman

Den Haag, September 2014

Abstract

In this research the long-term effect of large-scale projects on organisational effectiveness is investigated with respect to organisational structure, -culture and working approach. This study is potentially relevant for the Port Authorities of Rotterdam and Antwerp, for organisations inspired by Industrial Ecological solutions and for organisations in general that aim for effectiveness improvement.

The Port of Rotterdam and Port of Antwerp are international seaports that are crucial for world economy; however both have a high potential for environmental impact. Over the recent years, the awareness about this impact and the number of related initiatives have been increasing within the Port Authorities. Meanwhile, dynamics of international trade drove the Port Authorities to expand their port capacity via respectively the Maasvlakte 2 and Deurganckdok. However, they experienced unfavourable but inescapable resistances, such as rejection(s) by the Council of State. Internal organisational changes took place within the Port Authorities to anticipate on the high level of project complexity and to further execute the project strategies. Specific focus was on environmental impact and stakeholder involvement. Better understanding about organisational characteristics might contribute to improvement of such anticipation in case of further port development and to the yielding of successes from internal organisational strengths.

This research provides a methodological framework to identify these organisational characteristics (via typification of the organisational structure and -culture) and subsequently investigate the long-term effect of a large-scale development project on the organisational effectiveness (via analysing the change in organisational characteristics and in working approach, and the relation between them). This framework is conceived from a range of acknowledged methods, which are selected from a literature study performed within a prior determined scope.

It is applied to the Port of Rotterdam and Port of Antwerp Authorities regarding respectively the Maasvlakte 2 and Deurganckdok project. Results show that the Maasvlakte 2 project had significant long-term effect in organisational structure, no apparent long-term effect in organisational culture and significant long-term effect in working approach. The Deurganckdok project had significant long-term effect in organisational structure, apparent long-term effect in organisational culture and clearly visible long-term effect in working approach.

Recommendations with respect to performed research include improvement of the organisational typifications representativeness and further integration of the different framework elements. Those with respect to further research include the performance of further empirical testing of the framework usability, the integration of external factors able to influence organisational effectiveness and the investigation of framework potential as a tool along strategy development.

Keywords: Organisational effectiveness, organisational structure, organisational culture, Port Authorities, Maasvlakte 2, Deurganckdok

List of abbreviations

BE	Belgium
CO_2	Carbon dioxide
CMO1	Project management contract used in PMV2 (Contract Management Organisatie 1)
DGD	Deurganckdok
FL	Flanders
IDV	Individualism versus collectivism
IE	Industrial Ecology
IND	Indulgence versus Restraint
LNG	Liquid natural gas
MER	Environmental Impact reporting (Milieu Effecten Rapportage)
MAS	Masculinity versus Femininity
MT	Management Team
MV2	Maasvlakte 2
NL	The Netherlands
OMP	Discussion of Social Parties (Overleg van Maatschappelijke Partijen)
PDI	Power Distance
PKB	Key Physical Planning Decision (Planologische Kernbeslissing)
PMR	Main Port Development Rotterdam
PMR	Rotterdam Mainport Development Project (Mainportontwikkeling Rotterdam)
PMV2	De Projectorganisatie Maasvlakte 2
PoA	Port of Antwerp
PoR	Port of Rotterdam
PRA	Pragmatism versus Normative
PUMA	Projectorganisation Expansion Maasvlakte (Projectorg. Uitbreiding Maasvlakte)
Q	Question
SOM	Strategic Environmental Management (Strategisch Omgevings Management)
UAI	Uncertainty avoidance

1. Introduction

This Chapter provides the point of departure for the performed research. The first Section describes the research context as a sequence of elements that together form the fundament of the research relevance. This fundament is based on findings along an extensive literature study. It is presented in an extent of detail that was needed to ensure the clarity of the bridge towards the second section. The first section starts with the role of international seaports and their impact on their environment, and works towards the way in which the Port Authorities of Rotterdam and Antwerp lacked in readiness for execution of their port development projects. The questions that boil up when defining the context are the bridge towards the second Section in which the research goals are presented. The relevance of achieving these goals with respect to the Port Authorities, to organisations in general and to the scientific field of Industrial Ecology is also described in this Section. Based on these goals, in the final Section the research problems are stated that represent the research boundaries. Subsequently, the research questions are formulated by which the stated problems can be solved. Together, the Sections provide the understanding needed for the development of the research methodological framework in the next Chapter '2. Development of the Research Methodological Framework'.

1.1 Definition of the research context

Port role and impact

With 80% of world trade carried by sea (Becker, Acciaro, Asariotis, & Cabrera, 2013), international seaports are crucial for world economy. Such ports have an important role in world trade as being the linkage in global supply-chains and as providing the ability of all countries to access global markets. (Becker, Acciaro, Asariotis, & Cabrera, 2013) Because of this position within international markets, ports have to adapt to and are key players in international market dynamics. Ports serve as catalysts for growth and development and this way contribute to human civilization and commerce. (Becker, Acciaro, Asariotis, & Cabrera, 2013) Two international seaports are the Port of Rotterdam in the Netherlands and the Port of Antwerp in Flanders. Both ports state to be an essential link in world trade. The Port of Rotterdam Authority describes their port as the biggest logistic and industrial hub of Europe, having an ideal location at sea and river delta and providing terminals, service and network to hinterland connections. (Rotterdam Port Authority, 2014) The Port of Antwerp Authority has a quite similar description about the port of Antwerp and symbolise themselves as the "supermarket" of Europe where all products find a proper storage and transport. (Rotterdam Port Authority, 2014)

International seaports are industrial areas in which different steps of industrial processes, such as production, storage and distribution, are located and/or facilitated. They can be called harbour-industrial complexes. The Port of Rotterdam Authority formulates this as being a strong combination of Global Hub and Europe's Industrial Cluster. As large industrial areas, ports are characterized with high energy and material use. It seems that the high concentrations of ship emissions happening along coastlines, cause air quality problems in coastal areas and ports with heavy traffic. (Eyring, et al., 2010) Also the trend of containerization within transport logistics has increased the contribution of seaports to global climate and energy change. These increasing amounts of containers have increasing impact on marine and urban environment. The loads move trough sensitive marine ecosystems and along waterways, through cities and public transport infrastructures. (Hall, 2007) The high concentration of energy and material use in seaport areas results in high potential for environmental impact. This means that it is essential for port authorities to focus on environmental policies. Hall (2007) stresses the importance of the environmental awareness within port areas and the potential consequences of development failures in case of absence. 'If seaports and port cities cannot articulate a vision, which is

compatible with the bottom line ecological requirements of urban sustainability, then they may be poised to enter another cycle of disconnection.' according to Hall (2007).

Environmental awareness increase

Seaports have an important role in tackling the current global climate and energy challenges. The changes in climate and the increasing global energy demand result in inescapable environmental and economic changes to which seaports are first in the adaptation process. And parallel, they face an increasing pressure to reform their own ecologically damaging practices. (Hall, 2007) The pressure increase is emphasized by the forecast that shipping volumes will be rising considerable over the coming decades (ASCE 2012 in Becker, et al. 2013) and that international seaports importance will go hand in hand with the growth of world economy. (Levinson 2008 in Becker, et al. 2013) The increase of potential environmental impact asks for environmental awareness and anticipation for environmental legislation.
European guidelines are leading for national environmental legislations. International seaports have to anticipate and adapt to these legislation. The European guidelines are slowly being implemented in the Port of Rotterdam and of Antwerp. (Deltalinqs, 2014) How the European policies are being translated into national legislations, differs per country. The environmental legislation in Flanders are different than those in the Netherlands.
The presence and strictness of these legislation asks for continuous policy focus, especially during realization of development projects. The implementation of all legislation to reduce environmental impact asks for adaptations of agreements and plans in order to create a workable amount of environmental space in which the port development projects are allowed to take place. (Deltalinqs, 2014)

From the published information about both the seaports of Rotterdam and Antwerp, it becomes clear that each port aims for a proper balance between economic and ecologic development. Initiatives are taken in order to show and commit to their environmental awareness.
In order to decrease environmental impact by reduction of material and energy use, in some seaports industrial ecological initiatives are being implemented. Here, the systemic perspective of industrial ecology associates global companies with the role they play in global flows of material and energy. (Boons, 2013)
Several initiatives are present in the Port of Rotterdam and of Antwerp. Examples and further elaboration about these initiatives can be found in Appendix 'A. Examples of environmental awareness increase in the Port of Rotterdam and of Antwerp'.

Port development projects (MV2 & DGD)

According to Stevens (1997) international seaports are continuously dominated by dynamics of international trade, which can conflict with the high investments that first need to be done in order to be able to accommodate incoming ships and their loads. Optimal anticipation on the market dynamics leads to the common aim to commit as much load as possible to the port, which result in port development projects. (Stevens, 1997) Such a large-scale development project in the Port of Rotterdam (PoR) is the Maasvlakte 2 (MV2) and the Deurganckdok (DGD) in the Port of Antwerp (PoA). Before the MV2 and the DGD could be constructed, respectively the PoR and PoA Authorities submitted an extensive zoning plan to be approved by the Council of State before the projects could be continued.

Rejection of the projects' zoning plan submissions

During the construction of the projects, the Port Authorities experienced inescapable resistances of which the rejection by the Council of State of the zoning plans was most severe (In 2005 for

the MV2 and in 2000 for the DGD). The rejections of the zoning plans put a hold on the development projects. These holds were a serious problem for each Port Authority, since it resulted in high losses for example due to damage claims of building contractors. Regardig the DGD project, the hold on construction activities costed the Port Authority 18 million euros each day (Gazet van Antwerpen, 2001).

The rejection made both Port Authorities adapt their zoning plans in a way so that they would fit the approval criteria maintained by the Council of State. A new zoning plan needed to be submitted in order to let the port development plans continue.

The rejections and other resistances (all overviewed in the timelines of Appendix 'C Extended introduction to cases') asked for action within the Port Authorities to achieve the adaptations that would make the plans fit the approval criteria of the Council of State. This resulted in the need for appropriate environmental management within both organisations and improvement with respect to environmental related legislation against which the zoning plans were assessed.

A complex problem that required internal change

It becomes clear that port development projects can experience inescapable resistances to which they have to respond. The large variety of interests from the high number of affected actors along such large-scale projects, together with the resistance to be expected, make that such projects can be characterized as having a high level of complexity.

Dijkema (2006) describes the stakeholder system for the Rotterdam-Rijnmond port area. This gives an impression of the variety of stakeholders that are involved in large development projects of international ports. The stakeholder system of The Rotterdam-Rijnmond port area, contains companies, authorities and 'the public'. Each of these stakeholder types carry his own role and characteristics. Companies can be production locations or be providers of service regarding for example infrastructure, utility, storage and cleaning. Authorities have tasks of facilitation host or licencing. Also they have specific interests in economic affairs, environment and employment. The public relates to the port area via jobs, environmental and safety concerns and as consumers of for example energy products exported from the region. (Dijkema, 2006) A question that seems to emerge from current concerns for Rotterdam-Rijnmond area, is how to foster favourable decisions by all of these stakeholders regarding regulatory and legislative arrangements. (Dijkema, 2006)

To align all the different types (of stakeholders and their varying interest during realization of large industrial projects) a multidisciplinary approach is needed to prevent or dissolve conflicts with the environment while building a lasting mutual relationship. (Gudde, 2014)

Finding a proper balance between the needs and interests of all project stakeholders and a suitable multidisciplinary approach to manage this, explains why the complex problem that the Port Authorities were facing (the rejection of the zoning plan for their development project, causing project delay and extra costs) required a new strategic approach. Internal organisational change was needed in order to make the Port Authorities ready for continuation of the MV2 and DGD project.

Organisational structure and –culture change

New ways of working within an organisation, such as in case of the required internal organisational changes of the Port Authorities, asks for learning. Examples concern learning how to collaborate, how to become more trusting and open in communications and how to deal with dependency in these new kinds of fluid relationships. (Schein, Culture: The missing concept in organisation studies, 1996) Overall, it seems that proper knowledge management is very important for organisations to be able to integrate and adapt to new ways of working. Rasula,

Vuksic and Stemberger (2012) state that, based on empirical investigation, one of the key benefits of proper knowledge management in organisations is its positive impact on organisational performance.

However, knowledge management seems to be influenced by organisational culture. Also, organisational culture seems to influence the strategy development of authorities. As Johnson (1992) explains it, environmental forces such as environmental legislations together with organisational capabilities undoubtedly determine the performance of an organisation. However people who are strongly influenced by their core beliefs and assumptions are developing the organisational strategy (Johnson, 1992). In his book called 'Organisational Culture: the missing concept in organisational studies' (1996), Schein argued that overall awareness about the importance of organisational culture was lacking, due to researchers' inattention for social systems within organisations. He says we can assume that organisational culture has an impact on the way in which organisations change and that efficiency of the change process will improve if organisational culture matches with the change strategy. (Rasula, Vuksic, & Indihar, 2012)

Apart from organisational culture, the structure of an organisation also seems to determine the performance of an organisation. As Lunenburg (2012) explains it, goals of organisations are broken into tasks as the basis for jobs and jobs are grouped into departments, which in turn are linked to form the organisational structure. So the organisation's structure gives the form to fulfil its function. An effective organisational structure therefore positively influences the fulfilment of the organisation's functions and positively influences its performance. This means that if a certain organisational structure exists within an organisation and a different strategy is implemented, the organisational structure might not 'match' and therefore not be effective. In this case, the existing organisational structure would negatively influence the performances of the organisation regarding the implementation of their new strategy. This exemplifies that organisational structure can or cannot be effective for organisational activities, meaning that also organisational structure determines the performance of an organisation.

To conclude: This research organisational structure and organisational culture are understood both as determinants for the performance of an organisation. Based on this, the assumption is made that the performances of both Port Authorities are determined by their organisational structure and -culture. The *development* of (new) strategies in an organisation strongly depends on its organisational culture. The *extent of organisational effectiveness* with respect to these strategies seems to strongly depend on the match with its organisational structure. This clear link between organisational structure and -culture means that mutual coherence is of high importance with respect to long-term organisational effectiveness. However, to better understand this link, further elaboration will be given about how exactly organisational structure and –culture can be understood and are understood in this research.

The organisational structure within an organisation
Organisational structure can refer to different configurations and dimensions. The structure can for example refer to the control relationship between an organisation and the national state, but also to the internal configuration of employee activities and positions. Regarding the focus, in this research it is understood as the latter, referring to the totality of different manners in which work is divided in separate tasks and the way in which those are coordinated (Mintzberg, 1983). Numerous scientists support this definition. Child (1972) defines organisational structure as the formal allocation of work roles and the administrative mechanism to control and integrate work activities including those, which cross formal organisational boundaries. The organisational structure sets the limits as to who can participate in processes and includes role expectations and rules for who should do what, and how, and formal rules that should govern these arrangements (Kaspersma, 2013).

According to the research of Lunenburg (2012) organisational structure is affected by the organisations' strategy. The strategy of an organisation determines its environment, technology

and tasks, which are variables that are coupled with growth rates and power distribution. Dynamics in these variables thus seem to cause dynamics in organisational growth and internal power distribution, which result in changes of structure within an organisation.

Because of the close relation with organisational strategy developments, organisational structure is important to be taken into account when wanting to investigate the readiness of a certain organisation for implementation of new strategies or the realisation of certain projects with high organisational impact. This refers to the Port of Rotterdam and Antwerp Authorities, in which significant internal organisational changes took place to realise successful continuation of their projects. To clarify how both have improved their readiness since then, the previous and present organisational structure are fundamental to be investigated.

According to Stevens (1997), international seaports are a result of their own history and their structural and cultural developments, and are embedded in an own political structure. Therefore, seaports together represent a great variety of operational forms, the independence regarding their position and for example ways of dealing with their stakeholders. This results in great variety of organisational structure among them. It this research the assumption is made that the Port Authority of Rotterdam and of Antwerp probably can each be characterized by a significantly different organisational structure. The aim of the research is not to compare or validate these organisational structures. Instead, the aim of the investigation of the changed and current organisational structure is to be able to identify what both Port Authorities have learned and the extent to which they are now ready for further port development projects regarding their organisational structure.

Different levels of culture within an organisation
Numerous researchers have done studies for the culture that characterizes a certain organisation, bringing many different perspectives and definitions. One equal view among all studies though, is that culture manifests itself within different levels of abstractness. Therefore it seems that a distinction should be made between different levels of culture within an organisations such as the Port Authority in Rotterdam and in Antwerp. Each layer needs to be taken into account in order to get a complete view of their culture. Three layers of culture that can be distinguished are observable artefacts and practices as being the clearest characteristics, values as relatively more abstract characteristics and basic assumptions and beliefs as most abstract characteristics. (Schein, Organizational Culture, 1990) Because values and assumptions are relatively hard to observe, these ask for a more intense investigation in case one wants to identify the culture within an organisation. These deeper values and assumptions can be understood as being the national culture. They are generalisable for organisations within one country and remain relatively constant over time. (The Hofstede Centre, 2014) The surface level of culture, the observable artefacts and practices, can be understood as the organisational culture that can change relatively quickly due to turnover of employees. Figure 1 provides a visualisation of the different layers of culture within an organisation.

Organisational Culture
(Level of practices and artefacts)

National Culture
(level of deeper values and assumptions)

Organisation in case

Figure 1 - Visualisation (developed by researcher) of the different levels of culture within an organisation

It seems that organisational culture can be interpreted as an explanation for internal organisational dynamics (Schein, 1989). If for example different departments within an organisation with different sub-cultures have to work together, many problems that tend to be seen as simply 'communication failures' or 'lack of teamwork' are now more properly understood as discrepancies within organisational culture.

One may wonder whether organisational cultures differ between organisations, and regarding the focus of this research the question rises how organisational culture could specifically differ among port authorities. It seems that for each international seaport the organisational culture is different, because organisational culture is organisation specific. This is confirmed by a research of Chatman and Jehn (1994) who assessed the relationship between industry characteristics and organisational culture. It seemed that strong cultural dimensions exist and vary more across industries than within them, what would mean that cultural dimensions vary more across different seaports than within them. This refers to the culture on organisational level, so on surface level, to be identified in observable artefacts and practices. The research of Chatman and Jehn (1994) also shows that cultural values within an organisation can be associated with levels of industry technology and growth. This means that the type of cultural values can determine success of an organisation. Organisational culture can also show great variety among firms in very homogeneous industries. (Chatman & Jehn, 1994) The strength of culture can differ per organisation as well. Some organisations will have a very light or even no organisational culture, because they have no common history (yet) or have frequent turnover of employees. Organisations with a common history, a relatively slow turnover of members who might have shared important intense experience, are characterized as having a 'strong' organisational culture. (Schein, Organizational Culture, 1990) To conclude: regardless the fact that organisations or industries can seem very comparable regarding for example their business, the organisational culture may be completely different or of a different strength.

In this research, it is believed that roughly all organisations within a certain country share a common basis of national culture (the deeper values and assumptions), provided that the organisation consists of mainly people from the same nationality and that they all differ regarding the organisational culture (the observable artefacts and practices). One could assume that an organisation with a multinational set of employees might not have common national culture characteristics compared to surrounding organisations settled within the same country. The PoR and PoA Authority can be categorized as being organisations with respectively a Dutch and a Flemish national culture, because they aren't multinational companies and mainly consist of employees originated in respectively The Netherlands and Flanders. Figure 2 provides a visualisation of the different levels of culture within each Port Authority. The level of deeper values and assumptions of the PoR and PoA Authorities are understood as respectively the national culture of the Netherlands and of Flanders. The surface level of practices and artefacts of the PoR and PoA Authorities are understood as their organisation specific organisational culture.

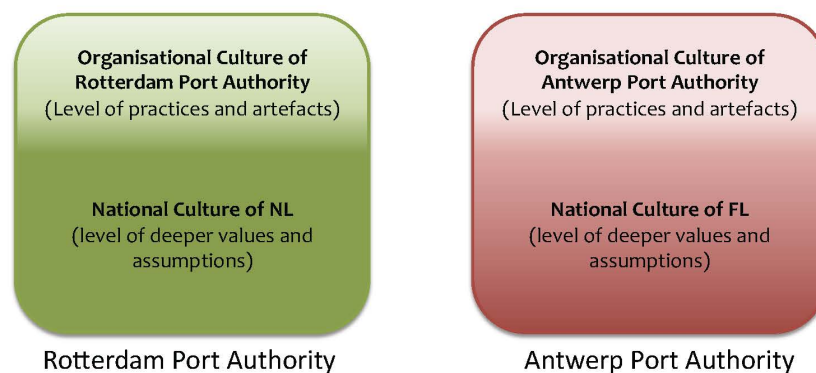| Organisational Culture of Rotterdam Port Authority (Level of practices and artefacts)	Organisational Culture of Antwerp Port Authority (Level of practices and artefacts)
National Culture of NL (level of deeper values and assumptions)	National Culture of FL (level of deeper values and assumptions)
Rotterdam Port Authority	Antwerp Port Authority

Figure 2 - Visualizations (developed by researcher) of the different culture levels within PoR and PoA Authority

To conclude, it can be assumed that the PoR and PoA Authorities are both organisations with a strong and probably mutually different culture on national level and on organisational level. Both ports exist already multiple decades, resulting in an internal common history among employees mainly from respectively Dutch and Flemish origin. Also they are not characterized as having quick and short projects to be implemented, but rather large development projects to be realized over multiple years. Therefore, this research takes as a starting point the presumption that the deep cultural layers of both Port Authorities are characterized as the national culture of the country in which they are located and that possible changes in these deep cultural layers can be assumed as insignificant to be taken into consideration within this research. A parallel starting point is that the surface layers of the culture within the Port Authorities, the organisational culture, might have changed due to internal organisational changes for successful continuation of the MV2 and DGD project.

Lack of readiness for new strategy

Regarding the struggles along the MV2 and DGD project, the Port Authorities did not seem to be ready for the execution of their plans and strategies. The lack in effective organisational characteristics can be understood as the absence of an operational system along these projects to manage the new strategies.

Several researchers have investigated which factors determine or influence organisational readiness for strategic changes. (Post & Altman, 1994) (Blattel-Mink, 1998)(Siebenhuner & Arnold, 2007) (Bititci, Turner, Mackay, Kearney, Parung, & Walters, 2007) (Burdon, Al-Kalidar, & Mooney, 2013)

According to Betitci, et al. (2007) the readiness of an organisation for a certain innovation strategy in which new collaborations will be started, such as in industrial symbiotic projects, is determined by a set of possible causes for collaborative venture failures. Implementing such innovation strategies that concern collaborative ventures can be compared with the implementation of the strategies that relate to the MV2 and Deurgancdoc. Like these innovation strategies, the strategies of both Port Authorities basically aim to anticipate on future demands in a successful way with a certain significant positive effect on the organisation. In order to estimate possible causes for lack of readiness of the Port Authorities, the set of aspects of Betitci, et al (2007) are translated to a set of possible causes by which the organisations' readiness or failure in case of a new internal strategy can be explained. An overview is presented in Table 1.

Table 1 - Projection of possible causes for collaborative venture failures on internal readiness for a new strategy (left column developed by Betitci, et al (2007), right column developed by researcher)

	Possible causes for collaborative ventures failures		Possible causes for internal readiness failure in case of a new strategy
1	Lack of commitment by one or more of the partners	→	Lack of commitment from employees that are part of strategy execution
2	Failure to identify a common ground for collaboration	→	Failure to identify the additional competitive advantage and for which shareholders
3	Unrealistic objectives of partners	→	Unrealistic objectives related to the new strategy
4	Failure to fulfil objectives and needs of partners	→	Failure to fulfil the objectives and needs related to the new strategy
5	Failure to focus on customer needs	→	Failure to focus on project shareholder needs
6	Focusing on individual short-term benefits rather then long-term benefits collectively	→	Focusing on individual short-term benefits rather than focusing on long-term benefits collectively
7	Unfair distribution of benefits due to ignorance of each other's competencies and contribution	→	Unfair distribution of benefits due to ignorance of each other's competencies and contribution
8	Absence of an operational system to manage the collaborative enterprise	→	**Absence of an operational system to manage the new strategy**

The final mentioned cause, 'Absence of an operational system to manage the new strategy', relates strongly to this research. In both Port Authorities an adequate operational system to manage the newly implemented strategies, which they aimed to execute via their project, seems to have been absent. Based on Betitci, et al (2007), the absence of the operational system in both Port Authorities can therefore be seen as a crucial cause for their lack of readiness to meet the criteria of the Council of State.

The question rises how the Port Authorities are doing nowadays? Did they learn from what happened in times of the MV2 and DGD realisation? Did they maintain effective organisational structure and –culture characteristics and effective working approaches for sustainable development of current and future projects? These questions provide the bridge to the research goals and relevance.

1.2 Research goals & relevance

This research has two main goals. The first is to develop a research methodological framework by which the long-term effect can be investigated of a certain large-scale project on the organisational effectiveness of a certain organisation with respect to its future development. The specific focus is the long-term effect on internal characteristics related to organisational structure, -culture and working approach. The second goal is to apply this framework to the cases of the Port Authorities of Rotterdam and Antwerp with respect to the Maasvlakte 2 (MV2) and Deurganckdok (DGD) project. An accompanied goal is to reflect on the usability of the framework after its application in order to know whether it indeed leads to valuable insights about organisational effectiveness.

But for whom are these goals relevant? This question has a three-leveled answer: The goals have potential relevance for the Port Authorities in case, for organisations in general and for specifically organisations involved in Industrial Ecological initiatives. And why? That question is answered in the upfollowing sections.

1.2.1 Potential relevance for both Port Authorities

The case studies potentially provide the Port Authorities of Rotterdam and Antwerp insights about which organisational characteristics led and lead to their organisational effectiveness with respect to port development projects. Also it provides an overview in how they have changed their organisation to improve organisational effectiveness since their previous experiences along the MV2 and DGD project and to what extent they have currently maintained the value of their previous investments for this improvement. Gaining a better understanding about their organisation this way might contribute to their anticipation on possible internal and external project resistances which cause project delays and extra costs and to be able to yield successes from internal organisational strength.

1.2.2 Potential relevance for organisations in general

The framework and the insights gained from its application to the cases could provide organisations in general better understanding in how and which organisational characteristics can relate to organisational effectiveness with respect to large-scale projects and how such organisational effectiveness could be investigated. Like with the Port Authorities, improved understanding on these aspects could help organisations to improve their anticipation on potential project resistances. This way they can avoid delays and extra costs and potentially yield successes from organisational strength. Furthermore, improved understanding about organisational characteristics could also be usefull in case of merger and acquisition. The

developed approach in this research could be used as a tool to investigate to what extent the organisations in case would fit with respect to their organisational structure, culture and working approach.

1.2.3 Connection with and potential relevance for the field of Industrial Ecology

The scientific field of Industrial Ecology positions itself in the overlap between industry (referring to industrial activities and organisations), ecology (as inspiration for industry and regarding industrial impact on environment) and sociology (referring to social scientific issues that come up around organisational transitions needed to implement industrial ecological initiatives). This research corresponds to this overlap since it addresses a question that concerns organisational transitions within industrial organisations to successfully develop in an ecologically responsible way. Figure 3 visualizes the position of this study from an Industrial Ecological point of view.
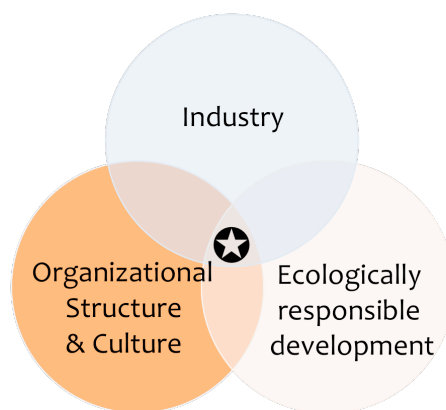
Figure 3 - Visualization (developed by the researcher)
of the research location (overlap) in the scientific field of industrial ecology

It could contribute to the scientific field of Industrial Ecology by providing a tool to investigate readiness of industrial organisations for successful realisation of their sustainable development plans such as industrial symbiotic solutions (waste reduction by turning residues or by products of one industry into input for another). Such plans might ask for internal organisational changes. It also connects by increasing understanding and awareness about which organisational characteristics determine organisational effectiveness with respect to the realisation of these plans. Organisations could better anticipate and make use of their organisational characteristics. The methodological framework could also be usefull for the investigation of coherence, regarding their organisational characteristics, between industrial organisations that aim for industrial symbiotic synergies. Such projects concern (new) collaborations. When developing common strategies for resource exchange, such organisations could together anticipate better on their mutual similarities and differences.

Now that the relevance and goals of this research are made clear, the problems can be stated from which subsequently the research questions will follow.

1.3 Problem statement & research questions

Problem statement

Internal changes within the Port Authorities to improve organisational effectiveness along and after the MV2 and DGD project took place on the level of organisational structure, -culture and working approach. These changes were strongly driven by the high pressure on the MV2 and DGD

projects due to rejections of the zoning plans. In order to identify what exactly changed within the Port Authorities, the first aim is to find a way to typify and describe these levels of the organisations both in times of their large-scale development project and now. Therefore, a proper selection and adaption need to be made from the work of numerous researchers who wrote about investigation of organisational structure and –culture. This brings up problem A (See Table 3 for an overview of all stated problems):

> **A)** Creating a suitable methodological framework in order to investigate previous and current organisational structure, - culture and working approach

The subsequent aim is to actually investigate the previous and present Port Authorities on their organisational characteristics and on concrete differences in working approach with respect to port development projects since the MV2 and DGD projects. This aim leads to problem B and C:

> **B)** Describing how organisational structure, -culture and working approach of the PoR Authorty and PoA Authority changed after the rejection of their zoning plans
> **C)** Obtaining sufficient knowledge about the current organisational structure and -culture, and working approach of both Port Authorities with respect to port development

The next aim is to explore what both Port Authorities have learned from the MV2 and DGD project and what they did and did not maintain with respect to current port development projects. This long-term effectiveness of both Port Authorities could be investigated by comparing the previous and present organisational characteristics, leading to problem D:

> **D)** Identifying the differences, similarities and relations between previous and current organisational structure, -culture and working approach

Research questions

A main research question has been formulated in which the stated problems are covered. Therefore by answering this main question, the problems would be tackled. This research question reads as follows:

> *'What is the long-term effect of the MV2 and DGD project on the organisational effectiveness of respectively the PoR and PoA Authority regarding their port development projects and how can this be investigated?'*

However to answer this main question constructively and draw the main research conclusion in the end, sub-questions Q1 until Q6 are formulated according to the stated problems:

> *Q1) How can the change in effectiveness of the PoR and PoA Authorities due to respectively the MV2 and DGD be investigated? [Theoretical and reflective]*
> *Q2) What is the context of the MV2 project and of the DGD project? [Orientating]*
> *Q3) What type of organisational structure and –culture characterizes those in the PoR Authority involved during the MV2 realisation and those in the PoA Authority involved during the DGD realisation? [Emperical]*
> *Q4) What type of organisational structure and –culture characterizes those in both Port Authorities involved during current large-scale port development projects? [Emperical]*
> *Q5) What are the main changes in working approach in the PoR Authority and the PoA Authority with respect to port development since respectively the MV2 project and the DGD project? [Emperical]*

Q6) *What is the long-term effect of the MV2 project on the PoR Authority and of the DGD project on the PoA Authority? [Analytical and Interpretative]*

These sub-questions are further explained in Section '2.4 Final working approach according to the research methodological framework' and are overviewed in Table 3.

In order to answer these sub-questions and provide usefull insights that contribute to the research relevance, a suitable approach has been developed and named as the research methodological framework. The development of this framework solves problem A, which relates to the first sub-question (Q1).

2. Development of the research methodological framework

In this Chapter, sub-question Q1 will be answered: *'How can the change in effectiveness of the Port Authorities of Rotterdam and Antwerp due to respectively the MV2 and DGD project be investigated?'*

The Sections of this Chapter represent the development process towards the methodological framework that has been applied on the cases of this research. The development of this framework happens according to a preliminary chosen approach in which also the essential elements are determined to be included in the framework. After the framework has been set, the final working approach to follow along the performance of the research has been defined and presented in Table 3.

2.1 Approach for development of the framework & including elements

The first step of the development is to determine which elements should be included in the framework.
In this research the changes in and current state of both organisational structure and culture should be investigated in order to answer the question if and what the PoR and PoA Authorities have learned over the long term from the past regarding their readiness for realization of port development projects. It seems that the organisational structure alone would not provide a proper basis for answering this question. The organisational structure does not represent how organisational members actually behave, but only provides formal guidelines and a framework. (Kaspersma 2013) The organisational culture refers to the layer above national culture that specifies a certain organisation by characteristics on the level of practices and artefacts. It can be understood as the internal dynamics around the organisational structure. Therefore, the framework should include methods for investigation of national culture and previous and present organisational structure and –culture.
Before performing the literature study that should result in sufficient design space, a scope of criteria is determined. This is done according to the researchers' scientific understanding. Subsequently, the literature study has been performed within this scope until a sufficient collection of methods has been gained. The next step is choosing which methods fit best, by evaluation of the options and constructive argumentation. The chosen methods together represent the body of the research methodological framework on which the final working approach is based.

2.2 Scope for literature study

The scope along the literature study consists of a set of determined criteria:
- The method for organisational structure and –culture should be suitable for the typification of the previous and present organisation. Therefore it should be able not only to investigate current situations, but also to provide the ability to develop a previous typification based on currently available input.
- The typifications should enable the researcher to compare the previous and present typifications. This way the researcher could identify the changes in organisational characteristics and interpret them to understand the long-term effect of the project in case.
- The method should enable to the researcher to perform the investigations with the available skills and within the available time. Therefore, the method should be accessible and userfriendly in such a way (maybe even with instructions) that it can be used by a 'layman'. This makes the researcher (and thereby the quality of the results) less

dependent on personal skills, which is favourable if such studies are undertaken for the first time.

- One of the most important criteria is that the method is acknowledged within the field of organisational sciences. This is indicated by the amount and type of cases and organisations to which it is applied. For example, it could be convincing if the method is known by and has been applied to large organisations within the industrial sector, so that it has a higher chance to suit the Port Authorities.
- A relatively high level of communicatibility of the method and its outcomes is also an important criterium. This would contribute to the potential of acceptability of those of the Port Authorities involved in this research. The better they understand to what kind of results they contribute, the better they can determine the extent of their input and their openness towards the research.
- An important selection criterion is the expected sensitivity to the bias phenomenon, which refers to the influence of skills, context and interpretation of the interviewer, the interviewees and maybe even the reader of the report. The lower the sensitivity is estimated, the higher the preference for choosing this method. Further explanation about this phenomenon can be found in 'B.3 Investigating organisational culture'.

Those criteria are taken into account when performing the literature study to gain an appropriate collection of methods optional for the different elements to be investigated.

2.3 Setting the research methodological framework

The following Sections conclude on which method is chosen for each framework element and why. This is based on the performed literature study from which the findings are overviewed in the appendices of this report. The specific Appendix that relates to each framework element is mentioned in each Section.

2.3.1 Investigating national culture

In order to investigate and compare national culture characteristics (referring to Flanders for the PoA Authority and the Netherlands for the PoR Authority), the six national cultural dimensions distinguished by Hofstede (2014) has been used. These six dimensions are Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Pragmatism and Indulgence. The Hofstede Centre (2014) performed detailed studies to indicate how countries score on each of these dimensions, from which the results are for public use.

The main arguments for this choice are the wide application of the method in comparable studies and the fact that data to identify the characteristics are provided by the Hofstede Centre. The latter results in the ability to quickly anticipate on these characteristics preliminary to approaching the Port Authorities for their involvement in the research. Another argument regarding the national culture characteristics of the PoA Authority is that The Hofstede Centre distinguishes between Flanders and Walloon in describing how Belgium scores on the dimensions.

In Appendix 'B.1 Investigating national culture', further elaboration can be found that supports this conclusion and argumentation.

2.3.2 Investigating organisational structure

As mentioned in the introduction, organisational structure refers to the total of different manners in which work is divided in separate tasks and the way in which those are coordinated. Within international seaports, different forms for planning of responsibility exist that represent the organisational structure. These forms of organisational structure can manifest throughout

different levels of management. A distinction can be made between organisational structure amongst state and market and the internal organisational structure by which a certain organisation can be characterized. Because this research focuses specifically on the readiness of the Port Authorities of Rotterdam and Antwerp, it has been decided to only investigate the Authority specific organogram and the internal organisational structure and to exclude organisational structure on the level between state and Port Authority.

Further elaboration on the different ways in which organisational structure can be understood and investigated can be found in 'Appendix B.2 Investigating organisational structure'.

For typification of organisational structure the method of Mintzberg (1983) has been chosen. This distinguishes five extremities of types that set the cornerstones for the field within which the Port Authorities can be allocated. These five types are: Simple Structure, Machine Bureaucracy, Professional Bureaucracy, Divisionalized Form and Adhocracy. By investigation of the organisations' key role, prime coordinating mechanism and type of decentralization, the certain combination results in one of the five mentioned types. A main benefit is that there is no restriction to the current time, meaning that present as well as previous organisational structures can be typified. This provides the ability to make a clear comparison. Other main arguments are that this method has been used for comparable studies, that applicability suits other steps of this research and that communicability of the results is high.

In Appendix 'B.2 Investigating organisational structure', further elaboration can be found that supports this conclusion and argumentation.

2.3.3 Investigating organisational culture

In this research both national culture and organisational culture will be investigated in order to come to a sufficient description of the culture of both Port Authorities. But because national culture seems to evolve over a large timespan, by which the timespan regarding the cases becomes insignificant, cultural changes within the Port Authorities due to the MV2 and DGD are assumed to concern only the surface organisational cultural level and not the deeper national cultural level.

Numerous studies are done in which the meaning and influence of organisational culture is being investigated. The aim of this Section is not to provide a complete overview of methods by which organisational culture can be investigated, because it can be assumed that there are numerous of ways how researchers have tried to say something about the culture within an organisation and how it manifests in different layers of abstractness. Taking manageability into consideration and based on intensive literature study, the aim is to provide just a proper spectrum of optional methods to consider, compare and to choose from. The collection is therefore certainly not complete but rather utilizes a spectrum of possibilities.

The collection consists of one method that investigates the impact of organisational culture within an organisation (Johnson, 1992), one that scores and typifies the culture of an organisation (Cameron & Quinn, Diagnosing and Changing Organizational Culture, 2006), one which is a framework to score organisational culture on and results in a cultural profile without a specific description of the investigation steps (The Hofstede Centre, 2014) and one that deeply investigates and explains the multiple layers of culture of an organisation (Schein, Organizational Culture and Leadership, 1989). Appendix 'B.3 Investigating organisational culture' provides further information about each of these different methods by which organisational culture can be investigated. In this Appendix the principle of each is explained in detail, followed up by typical cases for which it has been used and the pro's and con's regarding the application of it in order to answer the questions of this research.

For the typification of organisational culture, the OCAI method of Cameron and Quinn (1983) has been chosen. In this method, six organisational culture dimensions are distinguished from which each has four alternatives over which points can be divided. The distribution of points results in a final plot that represents the balance between the four types of organisational culture that Cameron and Quinn distinguish. These types are: Clan culture, Adhocracy culture, Market culture and Hierarchical culture.

An important argument for chosing the OCAI method is that it has been designed to compare two organisational characteristics configurations with quick and easy steps when doing different analysis (such as when investigating previous and present organisational culture or when comparing different organisations with each other). A related argument is that the format of the results (the plot) enables quick comparison and easy communication, since the dimension scores could be plotted in an overlapping way that provides a clear visualisation of the differences. Other arguments are that it has been developed as a tool for strategy development by comparing less and improved effective organisational characteristics and that elaborated description about how to apply it are available. Final decisive benefit of the OCAI method, compared to specifically the method provided by the Hofstede Centre (2014) for investigation of organisational culture, is that this method enables the researcher to also plot the six dimensions individually in case the aim is to compare individual dimensions with each other on how they are balanced between the four types of organisational culture. By doing this, the research can be extended with a deeper investigation on the organisational culture dimensions. Finally, a benefit of chosing the OCAI method is that the variety of studies combined within the methodological framework will be increased. This is favourable regarding the level of innovation of the constructed framework.

2.4 Final working approach according to research methodological framework

The previous Sections are dedicated to the motivations towards the main elements of the methodological framework of this research. In this Section, the final working approach according to which this research is performed is described in sequence of the sub-questions. An overview is given in Table 3, in which the research questions are presented, accompanied by the chosen working approach and which specific problem it solves from those stated in Section '1.3 Problem statement & Research Questions'.

Q1) *[Theoretical]*

Q1 refers to the development of the research methodological framework. It brings conclusions from a theorethical and reflective perspective. Based on literature study, it will address the question about how to investigate what the PoR and PoA Authorities have learned from the dynamics in organisational structure, -culture and working approach. It covers the development of the framework and also involves discussion and reflection on the usability after application to the cases. Thereby, Q1 solves problem A.

Q2) *[Orientative]*

Q2, the second sub-question, concerns the orientation phase that provides description of the case study contexts. The context will describe the ports, the Port Authorities and their national culture characteristics, their port development projects in case (MV2 and DGD), the key events (including the rejection of the project zoning plans) and the affected actors regarding these projects. These key events and actors are chronologically presented in timelines. All descriptions and overviews are developed by the researcher on findings along literature study, on collecting public information and on performance of a Hofstede analysis for the national culture characteristics of the Port Authorities.

Regarding the national culture, the analysis to describe Flanders and the Netherlands will be done in a relative way with the chosen method of The Hofstede Centre (2014).

Q3), Q4) & Q5) *[Emperical]*

Q3, Q4 and Q5 together represent the emperical part of the research in which the data are collected that will be analysed and interpreted in Q6. Sub-questions Q3 and Q4 focus on describing respectively the previous and the current organisational structure and -culture of both Port Authorities. Investigating the organisational structure and –culture of the complete Port Authorities is not the aim, since both Port Authorities are hybrid orgnisations representing a collection of quasi-autonomous elements with different responsibilities performing separate tasks and are together a collection of different organisational structures and –cultures. The focus for investigating the previous situation is therefore on those involved in the MV2 and the DGD project and for investigating the current situation on those involved in current port development projects.

For this part interviews have been constructed based on the chosen methods to investigate organisational structure and –culture. The interview formats can be found in Appendix 'E.2 Interview formats'. Regarding the previous and present organisational structure, the previous and present organogram of the organisation in case will also be used to understand and typify the organisation with the interviewee. The data needed to typify previous organisational structure and -culture should be gained from people who belonged to the Port Authorities when internal organisational changes took place along the realisation and resistenses of the MV2 and DGD projects. The data for typification of the present organisational structure and –culture should be gained from people who currently work in the Port Authorities and are in a way involved in port development projects.

Both the methods chosen for the typification of organisational structure and –culture could be performed in a quantitative (a large number of research participants with superficial and quick answers) and qualitative way (a small set of interviewees with extensive answers). The interviews have been organised in a qualitative way, meaning that they will be applied to a small set of interviewees who will be deeply asked for their motivation behind how their understand and score the dimensions. This approach was chosen to increase the describing or nuancing of organisational characteristics. This would also help if previous and current typifications seem to be almost similar at first sight, then the information gained from the deeper answers might provide more insight about the actual differences. Furthermore it would contribute to the understanding about the case context. Also, explanation of motivations behind scores or chosen answers would lead to more insights about how interviewees interpret the interview questions. Also these interview sessions provide a setting in which there is more space to resolve lack of clarity and a higher level of commitment and interest of the interviewee. Along this qualitative phase, the identified national culture characteristics are taken into account by the researcher to optimize the yield of the interviews.

The set of interviewees for the emperical part has been selected according to the five distinguished elements of organisational structure (Mintzberg, 2006) to achieve an organisation-wide representation in the final organisational structure and –culture typifications. The aim is to select interviewees from each of these five elements (strategic apex, the middle line management, the operating core, the technostructure and the support staff). Getting a valuable set of interviewees together is a challenge since the realisation of the MV2 done by the PMV2 is finishing and the DGD project took place about ten years ago. Employees at that time possibly do not work at the Port Authorities anymore, which would make them difficult to reach. Considering manageability, it is chosen to aim for interviewing (a minimum of) one person from each of the

different parts of the Port Authorities, resulting in a minimum of ten interviews. An overview of the aimed interviewees is presented in Table 2. The involved interviewees and their positions within the organisation are overviewed in Appendix 'E.1 Overview of interviews and interviewees'.

**Table 2 – Overview (developed by researcher) of interviews in
the PoR and PoA Authorities for the investigation of previous and current organisational structure and –culture**

	Investigating the previous organisational structure and –culture		Investigating the present organisational structure and –culture	
	PoR Authority	PoA Authority	PoR Authority	PoA Authrority
	PMV2	Employees involved in the DGD project during successful continuation of the project	Overall current Port Authority, those involved in current PoR development	Overall current Port Authority, those involved in current PoA development
Strategic top	1 interview	1 interview	1 interview	1 interview
Technostructure	1 interview	1 interview	1 interview	1 interview
Middle line	1 interview	1 interview	1 interview	1 interview
Operating core	1 interview	1 interview	1 interview	1 interview
Support staff	1 interview	1 interview	1 interview	1 interview

The interview results will always be checked with the interviewee shortly after the interview to make sure that the answers are documented properly. The interview conversation will be transcipted in order to be able to note certain quotes about organisational structure, - culture, changes in working approach, and feedback about the interview itself. A summary of the conversation would be less capable of covering the nuance of given answers. Such nuance is for example important during identification of the organisational culture regarding its abstractness.

To relativate the input value from each of the interviewees, their answers will be weighted before the organisational typifications are made. The weights range from 1 till 3 and are used to distinguish the value of input from different interviewees. This weight distribution is assumed only to be important to take into account when typifying the organisational culture, because organisational culture is relatively abstract compared to the organisational structure. The ability of an employee to identify abstract and intouchable characteristics of his/her organisation comes by time and experience. The longer somebody works within a certain organisation, probably the better his/her view is on the organisational culture that exceeds only that of his/her department. Organisational structure is typified by more concrete and strategy related characteristics that are probably well-known throughout the organisation, such as decision-making power distribution or standardization of work processes.

With respect to the research goals, the weight is determined by the extents to which the interviewee is involved in organisation-wide projects that ask for interaction with different departments and to which the interviewee position is related to port development projects, the time he/she is employed in the Port Authority and the extent of focus in his/her position on internal effectiveness development. These weightings can be found in Appendix 'E.3 Interviewee codings and their weightings'.

To clarify the impact of this methodological choice, a sensitivity test is conducted in which the level of influence of the weightings on the organisational culture results is investigated. With this test the organisational culture plots are developed with the opposite weighting values with respect to those used, to observe how the plots would be different (so when for example an interviewee receives a weight of 3, the opposite weight taken for the sensitivity test is 1. A weight of 2 remains 2 since it is the neutral value in the range of weightings). This sensitivity test and the findings can be found in Appendix 'E.4 Sensitivity test of interviewee weightings' and is used as an indicator when reflecting on the chosen weightings in Chapter '7. Reflections'. The chosen

weightings are used in the organisational culture typifications since the sensitivity test shows that the weighting system cannot be used in a manipulative way.

In total, the typifications of organisational structure and –culture are developed for: the PMV2, the current PoR Authority, the previous PoA Authority and the current PoA Authority. The input for the typifications will be gained from textual analysis of the individual interview transcriptions by predefined theorethical coding. This analysis seeks for and categorizes remarks related to the dimensions distinguished by Mintzberg (2006) and Cameron and Quinn (1983).

The textual analysis via predefined theoretical coding will be done in combination with textual analysis via open coding. Open coding textual analysis will be done to find other remarkable quotes that might relate to organisational structure and –culture, to supplement the timeline of the port development project in case including key events, involved actors and concrete changes in working approach regarding current port development projects (Q5), to catch feedback on the methodology and to signalise other potential relevances for this research.

From the interview results, first separate interviewee typifications are developed. Regarding the organisational structure typifications, the collected interviewee remarks will be categorized in an overviewing table. From the dimension alternatives that they chose and explained, the individual typifications are developed. This is done according to the Table 5 (Appendix 'B.2 Investigating organisational structure') of Mintzberg (2006) that shows which of the five organisational structure types that he distinguished follows from which combination of organisational structure dimension alternatives. The separate interviewee typifications are then together boiled down to an average one for each of the organisations.

Regarding the organisational culture typifications, the scores of the interviewees given to the six organisational culture dimensions distinguished by Cameron & Quinn (1983) are overviewed in a sheet from which the interviewee and average scores are plotted. The collected interviewee remarks and explanations are clustered and categorised in an overviewing table, after which they are clustered and provided with their total weight in subsequent table. All mentioned overviewing tables are presented in Appendix 'E.5 Interview results • Port of Rotterdam Authority' and 'E.6 Interview results • Port of Antwerp Authority'.

Based on all processed interview results, extensive discriptions are made as organisational structure and –culture typifications for the previous and present organisations. This is done based on the interpretation skills of the researcher.

The steps with respect to Q5 provide an overview of the main changes in working approach within the Port Authorities since the MV2 and DGD project. These extensive overviews are developed from the information gained along the Q2 phase when constructing the timelines and with the input gained from additional questions along the interviews of Q3 and Q4. These changes will be collected along the open coding textual analysis of the interview transcriptions. The overviews are organised according to the timelines of Q2.

Q6) *[Analytical and interpretative]*

Q6, the final sub-question, represents the analytical and interpretative phase of the research. It brings together the insights gained when answering Q2 until Q5, by taking different points of view to observe relations on a higher level. The different points of view are:
- The change in organisational structure within each Port Authority
- The change in organisational culture within each Port Authority
- The long-term preservation of MV2 and DGD related changes in working approach within the related Port Authority
- The extent of coherence in organisational structure and culture typifications and how this differs between previous and present organisation in case

Based on the interpreted observations along these analysis steps it provides conclusions about the long-term effect of the MV2 and DGD projects on the organisational effectiveness of the Port Authorities with respect to current port development.

The analytical phase uses no selected method from a literature study, as it is performed on purely the researchers' skills and understanding. The interpretation phase as well, however supported by the investigated national culture characteristics and a quality step in which iteratively feedback is gained from a larger set of employees of the organisations to indicate the extent of representativeness of the findings. This quality step is performed via an online survey in which the respondents are asked to give their expectations about their organisational structure and – culture and subsequently their extent of recognition in the typifications developed by the researcher. This step helps to indicate the representativeness of the research findings and thereby the usability of the developed framework. The findings along this step are presented as the final part of the interpretation phase.

Table 3 - Overview (developed by researcher) of research questions, the corresponding chosen working approach and the related research problem thereby solved

	Main-question		
	What is the long-term effect of the MV2 and DGD project on the organisational effectiveness of respectively the PoR and PoA Authority regarding their port development projects and how can this be investigated?		
	Sub-question	**Working approach**	**Problem to solve**
Q1)	*How can the change in effectiveness of the PoR and PoA Authorities due to respectively the MV2 and DGD be investigated?* *[Theoretical and reflective]*	**(1)** Literature study **(9)** Discussion and reflection after application to the cases	**A)** Creating a suitable methodological framework in order to investigate previous and current organisational structure, - culture and working approach
Q2)	*What is the context of the MV2 project and of the DGD project?* *[Orientating]*	**(2)** Literature study **(3)** Hofstede analysis (NL & BE)	
Q3)	*What type of organisational structure and –culture characterizes those in the PoR Authority involved during the MV2 realisation and those in the PoA Authority involved during the DGD realisation?* *[Emperical]*	**(4)** Interviews prepared from: - Organogram - 3 dimensions method of Mintzberg (1983) - Customized OCAI method by Cameron & Quinn (2006) Then textual analysis by predefined theorethical coding.	**B)** Describing how organisational structure, -culture and working approach of the PoR Authorty and PoA Authority changed after the rejection of their zoning plans
Q4)	*What type of organisational structure and –culture characterizes those in both Port Authorities involved during current large-scale port development projects?* *[Emperical]*	**(5)** Interviews prepared from: - Organogram - 3 dimensions method of Mintzberg (1983) - Customized OCAI method by Cameron & Quinn (2006) Then textual analysis by predefined theorethical coding.	**C)** Obtaining sufficient knowledge about the current organisational structure and -culture, and working approach of both Port Authorities with respect to port development
Q5)	*What are the main changes in working approach in the PoR Authority and the PoA Authority with respect to port development since respectively the MV2 project and the DGD project?* *[Emperical]*	**(6)** Open coding textual analysis of additional questions asked along the interviews	**C)** Obtaining sufficient knowledge about the current organisational structure and -culture, and working approach of both Port Authorities

Q6)	What is the long-term effect of the MV2 project on the PoR Authority and of the DGD project on the PoA Authority? [Analytical and Interpretative]	(7) Analysis of the case results (8) Interpretation of the observations supported by: - the iterative feedback step with larger set of interviewees - the Hofstede analysis	D) Identifying the differences, similarities and relations between previous and current organisational structure, -culture and working approach

Figure 4 shows a visualisation of the working approach, including the nine subsequent steps presented in Table 3, which have been chosen to answer the research questions. The figure shows an extra step of comparison between the two case studies on the lessons learned. By discussing the cases separately, differences and similarities between both Port Authorities become clear. Regarding the fact that comparison does not belong to the main goals of this research, the differences are touched upon gently.
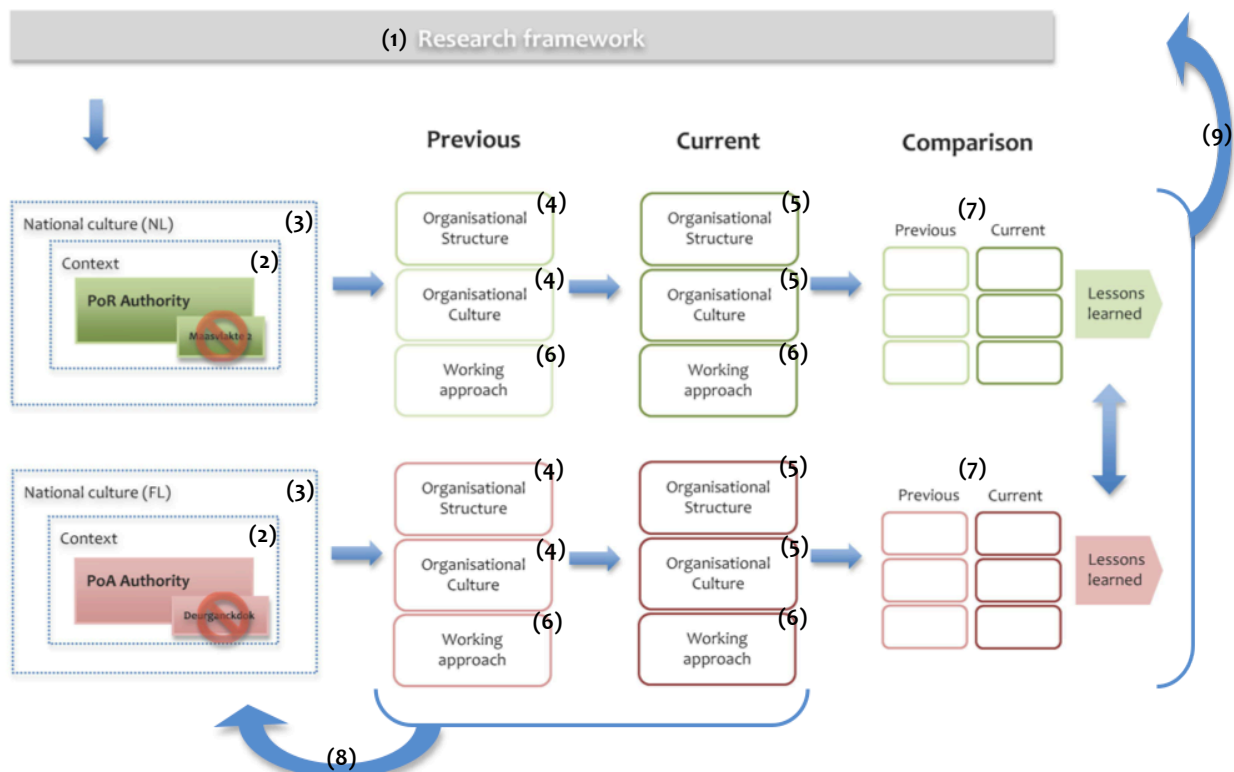
Figure 4 – Overviewing visualisation (developed by researcher) of the subsequent research steps according to the defined working approach

A planning is developed as guidance for the performance of these research steps of the working approach over a period of 30 weeks. This planning can be found in Appendix 'I. Work plan'.

Sub-conclusion Q1: The change in effectiveness of the PoR and PoA Authorities due to respectively the MV2 and DGD project can be investigated by a research methodological framework that compares organisational structure and –culture typifications and working approach of those involved along the projects and of those currently involved in port development, since these three organisational levels strongly influence organisational effectiveness. The level of coherence between the organisational structure and –culture typification is also stated as being an important indicator for organisational effectiveness. The developed framework is based on proven scientific methodologies having a relatively low sensitivity level to the bias phenomenon. It focuses on internal organisational characteristics and is able to investigate organisations with homogeneous structure and –culture and focuses, however of various size and composition.

3. Case results • Port of Rotterdam & Port of Antwerp

The case results that follow from the defined research working approach include the introduction to the cases (coverig the Port Authorties, their projects and their national culture characteristics), the previous and present organisational structure and –culture typifications of both Port Authorities and an overview of their main changes in working approach since the MV2 and DGD project with respect to port development. The results provide in sequence the sub-conclusions of the orientative phase (Q2) and of the emperical phase (Q3, Q4 and Q5) of this research and are the main input for the next Chapter in which they are analysed from different points of view.

3.1 Introduction to the cases

This Section focuses on answering Q2, which was formulated as follows: '*What is the context of the MV2 project and of the DGD project?*'.

Both cases will be briefly introduced, after which the part follows in which the performed Hofstede analysis is presented with respect to the national culture characteristic of each Port Authority. Finally, this Section concludes with the sub-conclusion that gives answer to Q2.

Before the two cases will be introduced separately, the reader is provided with explanation about why specifically the PoR and PoA cases have been selected to apply the developed framework on.

3.1.1 Case selection

Both the PoR and PoA cases are suitable to apply the designed research methodology framework on for a couple of reasons. For both Port Authorities in case, the investigation of long-term effectiveness is interesting after their experiences with respectively the MV2 and DGD project, together with the fact that both are today anticipating on changing or growing market trends and mutual competition with expansion strategies that include large-scale projects. As the PoR Authority states, their aim is to enhance the port of Rotterdams' competitive position as a logistics hub and world-class industrial complex. (Port of Rotterdam Authority, 2013) The PoA Authority want to continue current port development and therefore endeavor to strengthen more and more in the coming years to ensure the competitiveness of the port. (Port of Antwerp Authority, 2014)

A secondary motivation for selecting a large-scale development projects which asked for organisational effectiveness improvement in specifically the PoR and PoA, is their geographic mutual proximity. High proximity is beneficial regarding the communication with and involvement of the interviewees. Focus on this communication and involvement is important since the research is performed from out the Netherlands and since the research approach includes multiple interviews.
Another secondary motivation is that Dutch and Flemish are languages that need a comparable understanding, which works beneficial for the processing of interview results and for the mutual understanding of the researcher and the interviewees in both ports.

3.1.2 PoR Authority & MV2 project

The PoR is one of the main ports regarding cargo throughput in Europe and is ranked as the most important container port. The PoR Authority was established as a municipal authority and is later privatized into a so-called limited liability company with the Municipality of Rotterdam and the Dutch State as main shareholders. Nothwithstanding the fact that the organisation is publicly owned it is run like a commercial company. Nowadays, the PoR Authority is responsible for

managing, operating and developing the port and the industrial area. Furthermore, they are responsible for the promotion of their way of shiphandling in the port and to attract shipping to the port. The PoR Authority is a hybrid organisation that provides multiple services and performes many different types of activities.

The MV2 is a large-scale, important and high-impact project for the Port Authority to maintain their competitive position. With the project, the PoR aims to anticipate on economic growth and boost the Rotterdam economy. Figure 5 shows an artist impression of the MV2.

Figure 5 – Artist impression of the Maasvlakte 2 port expansion project (PMV2, 2013)

The origin of the MV2 project fals in the mid ninetees when the Port Authority realises that more capacity is needed to grow in future. In the preparation phase of the project the zoning plans get rejected by the Council of State while already contracts are signed with first terminal users, -owners and contractors. After greenlight for the project, the preparation for construction runs from 2006 until 2008, after which the construction phase runs until nowadays. However, in 2013 the MV2 was already officially open for shipping. Multiple actors are affected by the project, reaching from EU level to regional level. The most important EU level actors are the European Committee and European nature conservation organisations; on NL level the State, the Council of State, The Cabinet, relevant governmental organisations in the position of granting permits requested to construct and operate the MV2 and national nature conservation organisations; and on regional level the Province of South Holland, Municipality of Rotterdam, the PoR Authority, contractor consortium PUMA, the Consultation of Social Parties and industrial organisations such as the container shipping companies.

More information about the PoR, the PoR Authority and their motivation for the MV2 project can be found in Appendix 'C.1 PoR Authority and MV2 project'. Also, this Appendix includes an extensive timeline of key events regarding the MV2 project and an overview of the affected actors and their role and interests.

3.1.3 PoA Authority & DGD project

Currently the PoA is the largest seaport of Belgium and the second largest port in Europe, however regarding chemicals the largest. The port consists of two parts, namely the Left bank and the Right bank, which are separated by the Scheldt River. About two decades ago, the Municipality of Antwerp established the Municipal PoA Authority as an autonomous municipality-owned company. Nowadays, the Municipality is the single shareholder. The Port Authority manages and maintains all different port elements and is responsible for efficient transfer and safety of shipping traffic in the port area and promotion of the port on national and international level. Similar to the Port Authority of Rotterdam, the Port Authority is a hybrid organisation.

The DGD have been realised as a new tidal dock on the Left bank port area. With this new landing place for shipping containers the container handling capacity is doubled by which the Port

Authority and Flemish Government aim to anticipate on strongly increasing container transport, on limited space of berthing guai in the port and on improving accessibility of the port terminals. Figure 6 shows an artist impression of the DGD.

Figure 6 - Artist impression of the DGD port expansion project
(Department Mobiliteit en Openbare Werken, 2009)

In 1998 the Flemish Government and Municipal Port Authority decide to build the DGD. In 2000 the first phase of the construction starts, when soon the Council of State rejects the zoning plans. In 2002 construction continues after which the dock is finished and taken into use in 2005. Just as with the MV2 project, the affected actors reach from European to regional level. European level actors are similar. The most important actors on Flemish level include the Council of State, Constitutional Court of Begium, Flemish Government and relevant govermental organisations in the position of granting permits for the continuation of DGD construction and on regional level the Municipality of Beveren, Action Committee Doel 2020, several societies of various interests such as the Flemish Agricultural sector, the Municipal Port Authority of Antwerp, contractors for DGD construction and industrial organisations.

More information about the PoA, the PoA Authority and their motivation for the DGD project can be found in Appendix 'C.2 PoA Authority and DGD project'. Just as for the PoR case, this Appendix includes an extensive timeline of key events regarding the DGD project and an overview of the affected actors and their role and interests.

3.1.4 National culture characteristics of the Port Authorities

The national culture characteristics of the Port Authorities concern that of the Netherlands for the PoR and of Belgium for the PoA. However, the Hofstede Centre and thereby the researcher take the independent states of Belgium (Flanders and Walloon) and their possible difference in certain characteristics into account.
In Appendix 'B.1 Investigating National Culture' a short explanation can be found about each dimension. The Hofstede Centre (2014) states that culture only exists by comparison, which means that the country scores are relative to each other. Both the Netherlands and Belgium have unique national cultures for which the set of six dimensions is just a tool to describe these cultures and to explain the differences between those of other countries. The scores range from 0 (lowest) to 100 (highest).
This Section describes how each dimension is represented in the Netherlands and in Flanders according to how they score and the related characteristics. These characteristics are also important to be taken into account along the research steps, for example when addressing the Port Authorities or when interpreting the research findings concerning the case study results. Appendix 'D. Taking the difference in national culture characteristics into account' provides an overview of how the insights gained from the Hofstede analysis are taken into account.

Finally, important to mention is that the scores of The Hofstede Centre (2014) should not be taken for granted, since they come from a generalizing study. The interpretation of the scores will be used as guide for understanding the national culture, however while maintaining awareness of significant organisational specific deviations.

- Power Distance (NL: 38, FL: 65) Flemish people tend to accept hierarchical orders and power inequalities better than Dutch. The high score of typical Flemish people results in supervisors who are often inaccessible and who create centralized power distribution, in formal attitudes within the organisation and in control being normal and expected. The lower score of typical Dutch people results in independency, hierarchy for convenience only, equal rights, easy accessible superiors, equalized power distributions and direct communication.
- Individualism (NL: 80, FL: 75) Typical Flemish and Dutch people score equally high, which refers to characteristics such as preferring to be responsible for mainly themselves and making decisions individually, having no expectations of others to look after them or exchange unquestioned loyalty, rather not belonging to a group and commitment between employer and employees being typically on contract basis for mutual advantage.
- Masculinity (NL: 14, FL: 43) Typical Dutch people prefer to cooperate, be modest and caring for the weak and for quality of life and make consensus if possible; making compromises and negotiation is the way to go. Typical Flemish people tend to discuss quite long until proper compromise is reached as a mutual agreement and rather feel the necessity to enclose from foreigners to establish consensus.
- Uncertainty Avoidance (NL: 53, FL: 94) Compared to Dutch, typical Flemish people find it significantly more comfortable to avoid uncertainty and try to control what future will bring. Typical Flemish managers prefer to operate with planning, rules and security. If those are missing stress might occur, whereas Dutch managers seem way more flexible when it comes to unexpected happenings.
- Pragmatism (NL: 67, FL: 82) Both nationalities score relatively high, meaning that both Dutch and Flemish people tend to be rather pragmatic of nature, would rather believe that truth depends on conditions such as time, context and situation, would easily adapt transitions to condition change and typically tend to focus rather on quick results than mainly anticipating on future changes.
- Indulgence (NL: 68, FL: 57) Typical Dutch and Flemish people both seem to be characterized with relatively high acceptation for having free manner of gratification of basic and natural human drives and having scarce social norms to suppress satisfaction of needs. This relates to freedom of expression, possessing a positive attitude and a tendency towards optimism.

Sub-conclusion Q2: The context of the MV2 and DGD project on which this research focuses includes the Port Authority in relation to its project and its national culture characteristics, together with the key events according to which the project proceeded and the affected actors and their interests from which the resistances and support for the project originated.

3.2 Previous organisational structure & culture typification

This Section addresses the third sub-question, Q3, which was formulated as follows: '*What type of organisational structure and –culture characterizes those in the PoR Authority involved during the MV2 realisation and those in the PoA Authority involved during the DGD realisation?*'

Regarding the Port Authority of Rotterdam, an autonomous projectorganisation was strategically established to be responsible for the realisation of the MV2 project. Therefore, the previous organisational structure and –culture typification of the Port Authority refers to this projectorganisation, the PMV2. Such a projectorganisation was not established in the Port Authority of Antwerp with respect to the DGD project. The question is now what kind of

organisational structure and –culture was typical for those previously involved in the MV2 and the DGD project.

A detailed description and motivation for the approach followed to develop the typifications can be found in Chapter '2 Development of the Research Methodological Framework' in which the Methodological Framework for this research is designed.

An overview of the interviewees approached with respect to the PMV2 and previous PoA Authority typifications and their position within organisations according to the Mintzberg model, can be found in Appendix 'E.3 Interviewee codings and their weightings'. Their answers and explanations given for each organisational structure dimension are overviewed in tables in Appendix 'E.5 Interview results •Port of Rotterdam Authority' and 'E.6 Interview results •Port Authority of Antwerp'. In the same appendix, the interviewee specific organisational structure typifications are overviewed that are developed by the use of Table 5 in Appendix 'B.2 Investigating organisational structure'. From this overview, the field of organisational structure types with the characteristics is developed that together represents the average typifications of the PMV2 and the previous PoA Authority.

Regarding the organisational culture typifications, the input to plot and describe the organistional culture is gained from the same set of interviewees. The shape of the plots represents the balance between the four ultimate organisational culture types, which is the visualisation of the organisational culture typification. The extensive overview of the scores and calculations towards the final plots of the PMV2 and the previous PoA Authority can be found in Appendix 'E.5 Interview results •Port of Rotterdam Authority' and 'E.6 Interview results •Port Authority of Antwerp'. The weightings used when developing the plots and the typifications can be found in Appendix 'E.3 Interviewee codings and their weightings'. The interviewee explanations and remarks by which the extensively described typifications of the organisations have been developed are clustered, categorized and weighted in the tables that can also be found in Appendix E.5 and E.6.

This Section provides first the organisational structure and –culture typifications of the PMV2 and subsequently those for the previous PoA Authority. It concludes with the sub-conclusion that provides answer to Q3.

3.2.1 Previous PoR Authority (PMV2)

This Section covers the results regarding the previous organisational structure and –culture of the PMV2. First the typification of the organisational structure is presented, after which this is done for the organisational culture.

Organisational structure typification

From the five organisational structure types that Mintzberg (2006) distinguishes, the PMV2 characteristics are mainly similar to the typical characteristics of Machine Bureaucracy, Simple Structure and Adhocracy. The extent of similarity between the PMV2 and these three types is concisely overviewed in Figure 7. Subsequently an extensive description is provided including explanatory examples.

PMV2

Machine Bureaucracy

Specialized routine work
Clear goal and vision

Formalization and work specialization
Internal and external experts for specific project phases

Large Technostructure and Support Staff
All elements have key role, Communication department part of strategy

Relatively centralized decision-making power
Limited Selective Decentralization, Strategic Apex makes final decisions

Overload of rules, regulations and formalized communication
PRINCE2 , issue management and risk management

Clearly grouped tasks on function
The four pillars are categorized in office

Strong formalized procedures
CMO1, Standardization of Work Processes and Standardization of Outputs

Mostly medium sized organisations
PMV2 belongs to level of medium sized organisations

Experts of different disciplines are brought together in smooth functioning ad-hoc teams
PMV2 is a collection of experts working together in a smooth functioning team

Support Staff is relatively large to support complex structure
Relatively large Communication Department, need for internal & external communication about the complex project is part of preliminary defined strategy & structure

Overlapping tasks
Feeling responsible as a team, short function descriptions, aim to help each other out

Small hierarchy of managers
PMV2 is a flat organisation with small Board of Directors

Informal behaviour
Collaboration with informal attitude and pleasant, harmonious and open relationship with external partners

Organic structure
Mutual Adjustment internally and externally

Organic structure
No strict delineated responsibilities, informal Mutual Adjustment

Simple Structure

Complex in practice
Very simple structure (4 pillars) but in complex context, project concerns a complex totality of factors

Formalization and decentralisation is low
Centralized decision-making, Strategic Apex is accessible and open for consultation and discussion, open way of Direct Supervision

Adhocracy

Limited differentiation between departments
High collaboration between departments

Connecting means important for Mutual Adjustment
High level of Mutual Adjustment, Review Team as connecting mean

Selectively decentralized decision-making power
Distribution of mandate enables decentralized decision-making power towards Project Managers

Goal is innovation and rapid adaptation to changing environment
Dynamic, innovative and decisive character, PMV2 needs to anticipate and solve complex situations, innovative thinking for quick adaptation
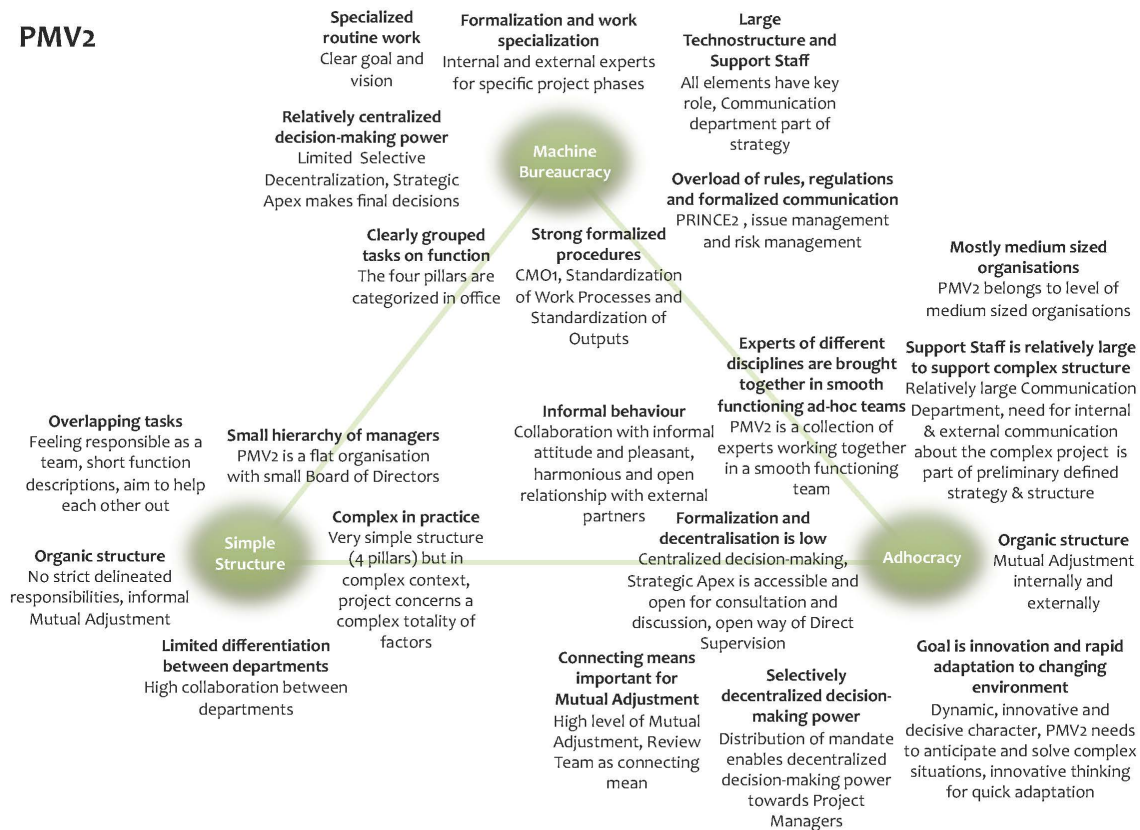
Figure 7 - Field of the PMV2 organisational structure typification including the cornerstone types and the interfacing characteristics of the PMV2 (developed by researcher)

Compared to the Simple Structure and the Adhocracy, a relatively large set of characteristics of the PMV2 is similar to the elements by which a Machine Bureaucracy organisational structure can be described. A strong similarity is that the Technostructure and Support Staff are relatively large, since for example the Communication department of the PMV2 had a relatively important role in the project strategy and that the PMV2 consisted of a high number of specialists and analists. Another similarity hat the PMV2 had a clear task categorization regarding their four pillars of which the organisation consisted; namely the department of Conditions and Environment, of Planning and Implementation, of Communication and of Project Control. Figure 8 shows the simple organogram according to which the PMV2 operated. This Figure also shows the direct link towards the Board of Directors (CEO, CFO and COO) of the PoR Authority to make communication lines exceptionally short and higher-level decisions that also needed review of the Board of Directors go faster. In Section '3.3.1 Present PoR Authority', Figure 14 shows the organogram in which the short hierarchical lines are also clearly visualized.
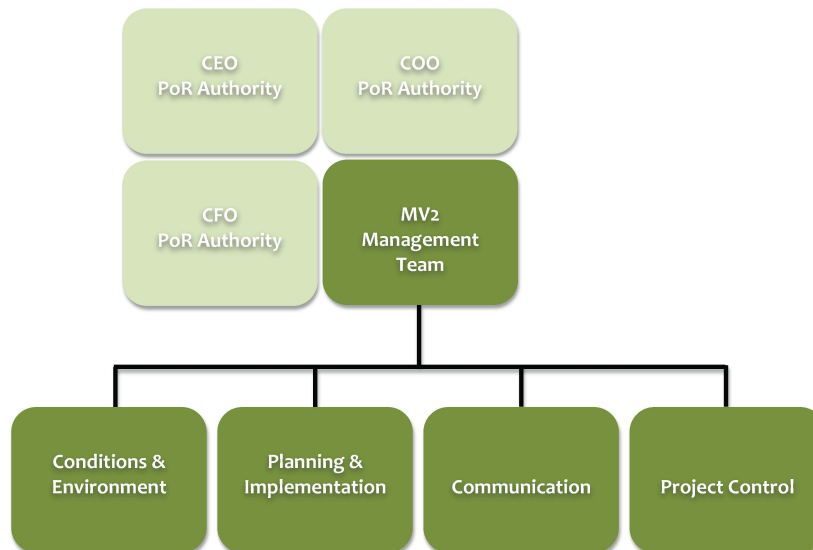
Furthermore, a very remarkable characteristic is the dominance of rules, regulatons and formalized communication processes that were maintained throughout the entire PMV2 via the PRINCE2 project management method and the strong formalized procedures that were present referring to the CMO1 contract form.

Also a relatively centralized decision-making power distribution is seen in the PMV2 referring to the selectively decentralized decision-making power structure in which final decisions would always be made by the Strategic Apex; the Management Team (MT). A clear example that relates to this is the mandate distribution within the PMV2 regarding project planning. An exceptionally designed milestone structure for project planning distinguishes project-milestones and MT-milestones of which the MT owns the margin in between. This way project managers have the mandate about decisions within the period of the project-milestone, however with a determined extra amount of emergency margin (from which the size was not communicated to the project manager) that fals under the mandate of the MT. (Weststrate, 2014)

The set of characteristics of the PMV2 that matches the Simple Structure organisational culture type is relatively small compared to the Machine Bureaucracy and the Adhocracy. Clear similarities are a simple organisational structure that is complex in practice, referring to the relatively simple PMV2 organogram (Figure 8) that has a context representing a complex totality of factors to deal with. Another remarkable similarity is the loose division of labour referring to employees performing overlapping tasks, since PMV2 employees have short function descriptions with the mentality to help eachother out with tasks and problems and feel responsible as a team. This also relates to another clear similarity between a Simple Structure and the PMV2 of having an organic structure with a high amount of informal mutual adjustment and flexible responsibility delineations.

Furthermore, the typical small hierarchy in managers of a Simple Structure can be clearly identified in the PMV2, as it is a very flat organisation with a relatively small MT (two headed in the major part of the project). The typical limited differentiation between departments of a Simple Structured organisation corresponds with the high collaboration between the PMV2 departments. However the four departments (pillars) do have a very clear function of their own with regard to the MV2 project.

An element belonging to the Simple Structure desciptions that does not correspond to the PMV2 is a limited Technostructure and Support Staff in the organisation. Another typical characteristic of a Simple Structure that clearly does not correspond with the PMV2 is hardly having any

formalized behaviour and that a Simple Structure hardly makes use of planning and binding means. Regarding this aspect, the PMV2 clearly resembles the Machine Bureaucracy.

Regarding the Adhocracy organisational structure type, the corresponding set of PMV2 characteristics is relatively large compared to both the other Machine Bureaucracy and Simple Structure types that demarcate the organisational structure configuration field of the PMV2.

A clear similarity is that an Adhocratic organisational structure brings experts of different disciplines together in smooth functioning ad-hoc project teams, which exactly happened when the PMV2 was established. Ad-hoc project teams were also created along the MV2 project within the PMV2. Another similarity is the prime goal to be innovative and highly adaptive to changing environments, since the PMV2 needed to anticipate on complex emerging situations as quick as possible. Also typical for an Adhocracy and the PMV2 is the organic structure with hardly any formalized behaviour, which was also mentioned at the Simple Structure. One of the main coordination mechanisms within the PMV2 was mutual adjustment, which happened in a very informal, pleasant and open way both internally among employees and externally with involved external actors along the MV2 project. The internal mutual adjustment was stimulated by a connecting means, which is also characteristic for a typical Adhocratic organisation, via the Review Team that reviewed emerging issues and stimulated mutual adjustment to solve these issues.

Another typicality of an Adhocratic structure is that the Support Staff is relatively large in order to support the complexity of the organisation. This clearly corresponds with the PMV2 in the sense that according to the preliminary defined strategy and structure, the Communication department was relatively large to manage the importance for internal and external communication about the project. Another characteristic that clearly corresponds is the selective decentralized decision-making power, which is represented in the PMV2 regarding the centralized decision-making by the MT with a mandate distribution that enables a certain extent of decision-making power towards project managers. Another relating important similarity is that the centralization is not characterized as being very formal, since the MT coordinates in a very open way of direct supervision by being very accessible and open for consultation and discussion.

A characteristic of a typical Adhocracy that does not clearly correspond with the PMV2 is a high level of horizontal task specialization that is based on formal training and also the performance of non-routine tasks and usage of high-level technology. Horizontal task specialization however can be understood as represented by the high number of experts within the PMV2 that work together in a very flat organisation, so horizontally structured.

A final remarkable aspect is that the Adhocracy organisational structure type usually suits medium sized organisations, such as the size of the PMV2.

Organisational culture typification

The plot in Figure 9 represents the average organisational culture typification. It shows that the Clan and the Adhocracy types dominantly characterize the PMV2 and Market and Hierarchy do in a minor extent. Additional to the plot, an explanatory description is provided including the interviewee remarks that seem to clearly support the balance between the organisational culture types. Interviewee remarks are categorized per organisational culture type and can be corresponding or opposite to it; thereby the remarks can contribute positively or negatively to the score on the axes of the plot.
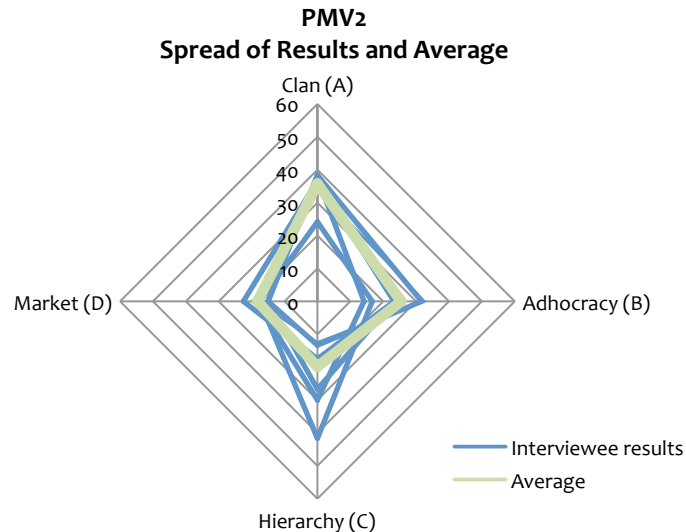
PMV2
Spread of Results and Average

The largest set of interviewee remarks corresponds to Clan, explaining the highest score on the Clan axis of the plot. One of the most often mentioned characteristics are the low amount of mutual competitiveness among employees. Another is the high importance of mutual trust among employees that prevented unfavourably interference with eachothers responsibilities and among MT and project teams that reduced hierarchical structures. Also employees seemed to be very loyal to the project and to eachother shown from their high level of commitment. This relates to the organisation-wide binding factor of collective pride for the project with the strong 'one goal, one team' mentality, resulting in people being very results-oriented together. The common focus clearly stimulated people to work together and helping one another out in case of issues, after which they were sincerely thankfull for the given support. Furthermore, the treshold to approach project leaders was low; the strong 'we-feeling' caused responsibilities being felt by everyone instead of only by the project leader and risks being taken not individually. This strongly stimulated mutual involvement among employees. The project leaders tried to get the best out of their teams without motivation of claiming the credits. Related to this, employees were very willing to perform their jobs and achieve goals, however not at the expense of eachother or their context. Another related characteristic is the high level of mutual respect and acknowledgement of eachothers importance and involvement. Employees were in harmony with eachother. Furthermore, there were no demarcated responsibilities referring to the short task descriptions and flexibility in activities. Another typical Clan similarity is the aim to be a learning organisation that keeps improving itself. Focus was on personal development and maintaining trust, openness and participation. This created mentality of knowledge sharing and hardly any employee conflicts. Also teambuilding was very important throughout the whole PMV2. It was even mentioned that it felt like a close family in which everybody became together one. The culture was personal since people shared and were compassionate about eachothers personal lives. Collaboration on specifically the MT improved after personality-colour studies performed on management level. Furthermore, successes were internally celebrated, some even together with external relations. In case of drawback, people quickly repacked and had strong mentality of thinking in solutions; focus was on the work and deliverables instead on playing hard on the man. In critical and exciting times people reassured eachother and maintained optimism and positiveness in their work.

A characteristic strongly corresponding to Adhocracy is that employees were willing and dared to take risks. Related is that they dared approach and confront eachother. Also clout (impact force)

was very typical together with a dynamic and entrepreneurial character that anticipated on the speed and complexity of the work. People were dynamic and together represented an entrepreneurial place in which everybody was highly motivated to finish their work. The mentality existed of 'things being possible if you really want it', however with a high focus on possible consequences. This relates to the typical freedom employees created and were provided to autonomously manage their business, also making consequences larger. Employees were required to be flexible to each new project phase and to quickly mind-switch and continue in case of changing context. A typical Adhocracy characteristic also mentioned at Clan is the strong mentality of thinking in solutions and being positive and optimistic in case of drawback or critical times. Typical for Adhocracy is also that the PMV2 was a smooth, dynamic and professional organisation with 100% focus on the project. The latter relates to the fact that the PMV2 included a high percentage of temporarely hired extenal people with natural project and short-term focus.

The set of interviewee remarks corresponding to Hierarchy is relatively small. The only similarity is the organisation having a clear hierarchical structure. However, in the PMV2 this structure was very flat. The hierarchical structure even softened along the project due to high level of trust from MT towards project teams.

Regarding Market, interviewees made relatively many remarks however gave only few points to the Market alternatives of the organisational culture dimensions. The most mentioned characteristic similar to Market is the strong results-oriented and driven mentality. The PMV2 had a very clear and specific goal and a strong focus on intensive control to let the job proceed as planned. A culture was strongly stimulated by the project director of having maximum control over everything and not letting anything stand in the way. However, contrastingly with Market, this did not happen in an aggressive way but with a very humane character. This culture caused the PMV2 to have a relatively suprior and dominant attitude regarding the rest of the Port Authority. Another similar characteristic is the strong clout together with a mentality of things being possible if you really want it, though always with high focus on possible consequences. A final similarity with Market is the high expectation of skills and the hard way of working.

3.2.2 Previous PoA Authority

This Section covers the typifications regarding the previous organisational structure and –culture of the PoA Authority in similar sequence as with the PMV2.

Organisational structure typification

The organisational structure configuration of the PoA Authority regarding those involved along the realisation of the DGD is presented in Figure 10, followed by the extensive explanatory description.

Simple Structure

Complex in practice
Almost no Standardization of Work Processes, different approach for each case. DGD is large-scale project with many actors involved in decision-making processes and balance of interests. Organic working approach was flexible but very incontrollable.

Organic structure
Selective decentralization due to urgency, decision-making power exceptionally decentralized for DGD project. Hardly any Standardization of Outputs or individual and output focused job descriptions. Collaboration between departments of different external parties was very organic, flexible and very incontrollable.

Previous PoA Authority

Formalized organisation
Very controlled organisation, clear hierarchical lines, binding factors are formal rules and achievement of results.

Emphasis on skills and professionalism, instead of e.g. market position
In times of DGD project, execution of such projects came mainly down to actual construction activities.

Hardly any formalized behaviour, planning, training, binding means
Due to high time pressure no time for development of standardization processes to increase effectiveness. Mutual Adjustment did improve; ad-hoc teams were composed.

Norms are developed outside organisation
External stakeholders very important during DGD realisation, Flemish Government made final decisions in regional implementation plans and granting licences.

Organic structure
Parts of Port Authority very organic, collaboration with external parties very organic, high amount of Mutual Adjustment due to lack of standardization

Experts of different disciplines are brought together in smooth functioning ad-hoc teams
Project Teams are composed in which different departments are represented

Bureaucratic structure
Board of Directors is very politicized, Port Authority is a real bureaucracy.

Professional Bureaucracy

Decision-making power is decentralized, autonomy is provided to specialists/professionals
Limited Horizontal and Vertical Decentralization, strong Vertical and Horizontal Centralisation. Trust was needed from top in the people engaged in the strategy development for DGD project. The top had confidence in people who made decisions and did all negotiations with external parties.

Primary goal is innovation and rapid adaptation to changing environment
Decisions made on lower levels, selective decentralization due to urge of project

Adhocracy

Hardly any formalization
Due to high time pressure no time for development of standardization processes to increase effectiveness.

Strongly specialized in horizontal direction, larger area of activities in vertical direction
Operating Core consists of separate kingdoms, Port Authority does not work as complete organisation, different departments with own focus, delimited responsibilities.

Support Staff is relatively large, Middle Management and Top relatively small
Support Staff, together with Technostructure, had key role in determining development direction of DGD and in collaboration with external parties.

High number of specialists/professionals with high independence
Emphasis during DGD project on Technostructure (engineers) with exceptional power due to urge of project. Operational tasks were most important.

Selective Decentralization towards ad-hoc teams
Ad-hoc teams were trusted by top, trust very important, mandate was distributed from top to negotiate about solutions, selective decentralization due to urge of project

Connecting means important for stimulation of Mutual Adjustment
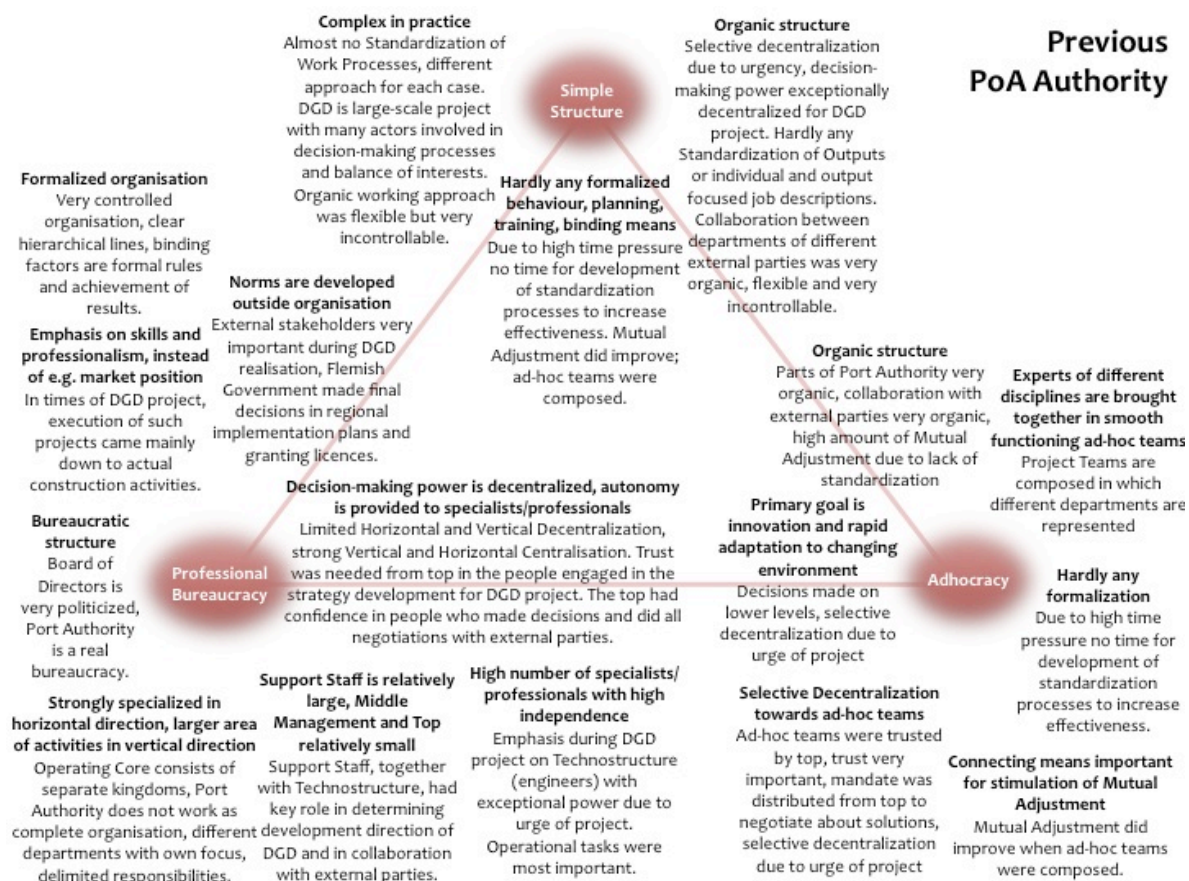Mutual Adjustment did improve when ad-hoc teams were composed.

Figure 10 - Field of the PoA Authority organisational structure typification (in times of DGD) including the cornerstone types and the interfacing characteristics of the previous PoA Authority (developed by researcher)

The set of characteristics of the previous PoA Authority that matches the Simple Structure organisational structure type is relatively small compared to the other types that cornerstone the field. However, the previous PoA Authority in times of the DGD project does strongly correspond the Simple Structure. A clear similarity with the PoA Authority in times of the DGD project is that the organisation is complex in practice. The DGD project was a large-scale project with many actors involved regarding decision-making processes and balance of interests. Also almost no standardization of work processes existed; for each case a different approach was taken. The previous PoA Authority can typically be described as having an organic working approach that was very flexible and uncontrollable, which corresponds with a Simple Structure. Selective decentralization took place due to urgency and decision-making power was exceptionally decentralized for the DGD project. Also hardly any outputs or job descriptions were standardized. Another aspect that is examplar for the organic structure of the PoA Authority was the organic way of collaboration internally among different departments and externally with different external parties. This is typical for a Simple Structure since it would have hardly any formalized behaviour and hardly makes use of planning, training and binding means. Due to high time pressure there was no time for development of standardization processes to increase the effectiveness.

One characteristic that does not seem to match between the Simple Structure and the previous PoR Authority is having hardly any technostructure.

The set of characteristics of the previous PoA Authority that corresponds with the Professional Bureaucracy is relatively large compared with the Simple Structure and Adhocracy characteristics. A strong similarity is the emphasis on skills and professionality instead of for example the position within the market, which is comparable with the PoA Authority since projects manly came down

to the actual construction activities with low focus on environment and the project context. Relating to this, the emphasis along the DGD project was on the technostructure of the PoA Authority (the engineers) and the operational tasks seemed to be most important. This is also typical for a Professional bureaucracy since it usually contains a high number of specialists and professionals. Another similarity is the decision-making power is typically decentralized to provide autonomy to the specialists and professionals. This happened along the DGD project via exeptional horizontal and vertical decentralization of decision-making power distribution towards the people closely involved in the project. However distribution of the power was top-down, so with a strongly vertical and horizontal centralized control. Trust was needed from the Board of Directors into those who focused on the realisation of the DGD, made the decisions and did all negotiations with external parties. The Board of Directors made sure that those to which decision-making powers were decentralized acted with respect to the PoA Authority interests, which is typical for a Professional Bureaucracy in which the specialists are highly trained and indoctrinated and achieve a relatively high amount of control-power regarding their work. Furthermore, a similarity that typically contrasts with the relatively autonomous specialists and professionals is that the organisation is quite formalized. The PoA Authority was a very controlled organisation regarding the clear hierarchical lines and formal rules for achievement of results as binding factor. Relating to this, the PoA Authority had a bureaucratic structure as the Board of Directors were very politicized, which matches the Professional Bureaucracy since the way of coordination is usually based on design and norms which preliminary determine what will happen. Another characteristic of a Professional Bureaucracy is that norms are developed outside the organisation. This clearly corresponds to the PoA Authority and the DGD project regarding the fact that external stakeholders were very important along DGD realisation; for example the Flemish Government made final decisions in regional implementation plans and granting licences. A characteristic that also matches between a typical Professional Bureaucracy and the previous PoA Authority is that the support staff is relatively large and the middle management and top relatively small. In the previous PoA Authority, the support staff together with the technostructure had a key role in determining the development direction of the DGD and in the collaboration with external parties. The organogram of the previous PoA Authority, Figure 11, also shows that multiple disciplines fell under the support staff of the Direction Committee (Central Staff Services, Communication, Prospection & Promotion etc.)
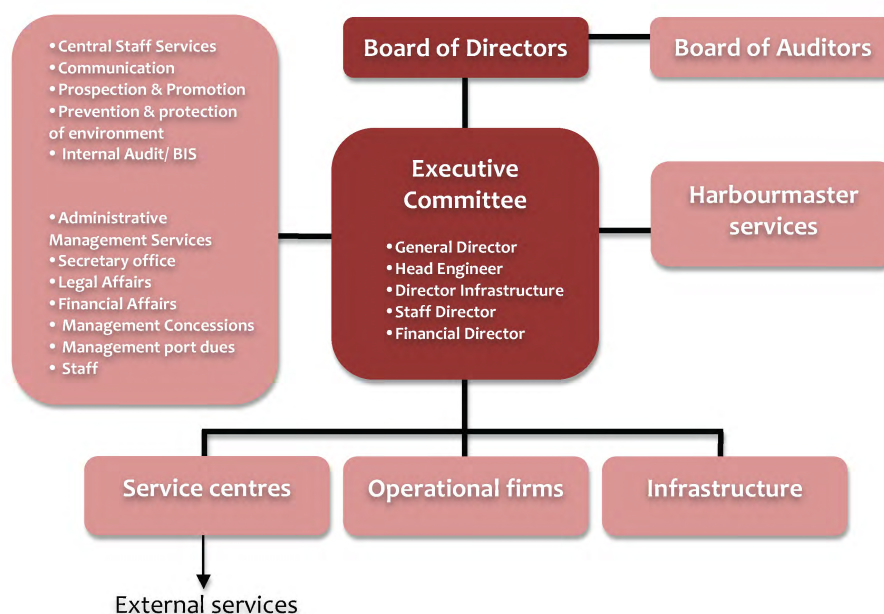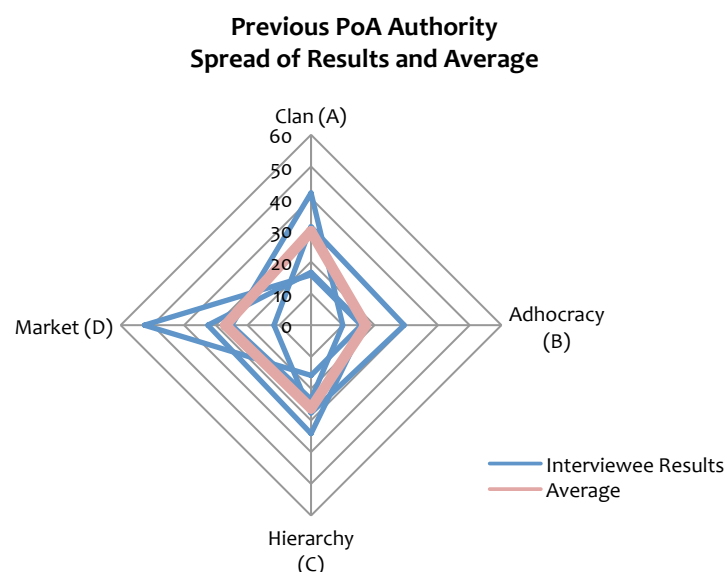

Figure 11 - Organogram (developed by researcher) of PoA Authority in times of DGD project realisation (Coeck, 2014)

A final similarity between the Professional Bureaucracy and the previous PoA Authority is that work is strongly specialized in horizontal direction and covers a larger area of activities in vertical direction, since the operating core of the PoA Authority consists of separate kingdoms. The PoA Authority did not work as a complete organisation, regarding the fact that it had different departments that had their own focus and delimited responsibilities.

The other characteristics by which the previous PoA Authority organiational structure can be described belong the third organisational type, Adhocracy. A characteristic of a typical Adhocracy organisation that has increased along the DGD project in the previous PoA Authority is that experts of different disciplines are brought together in smooth functioning ad-hoc teams. Along the DGD project, project teams were composed in which different departments were represented in increasing extent. These ad-hoc teams were established as a connecting mean to anticipate on the importance of mutual adjustment. The mutual adjustment was being stimulated this way and improved along the project because of these ad-hoc teams. This is typical for an Adhocratic organisation, in which connecting means are important for stimulation of mutual adjustment.
Another characteristic that relates to the ad-hoc teams is that regarding the pressure behind the DGD realisation decisions were made on lower levels, which represented selective decentralization due to the urge of the project. Ad-hoc teams were trusted by the top of the organisation and mandate was distributed top-down to enable the ad-hoc teams to negotiation about solutions. This is similar to a typical Adhocracy organisation, since the prime goal would be innovation and rapid adaptation to changing environment and decision-making power is typically decentralized towards various ad-hoc teams, matching the nature of the decisions to be taken.
A final similarity between the Adhocracy type and the previous PoA Authority is a limited amount of formalization, which is clearly typical for the DGD project since due to the high time pressure there was no time to standardize processes to increase effectiveness.

Organisational culture typification

The average organisational culture plot is presented in Figure 12 and further explained in the subsequent description including the interviewee remarks that correspond to the four organisational culture types.

Figure 12 – Separate interviewee results and final average plot of previous PoA Authority organisational culture referring to those involved in the DGD project (developed by researcher)

From the interviewee remarks that relate to the Clan characteristics, only few add up to the score on the axis. Significantly more describe the opposite of Clan typicalities. One corresponding remark is that management is like a facilitator along the project process, which refers to the exceptional freedom managers provided to those involved in the DGD project to perform their jobs. Managers partly had the role of mentor, facilitator and stimulator. Another typical similarity is the main focus on generating employment, which seemed in the Port Authority more important than management and development of the port area. A remark that works opposite to the Clan score is that people seemed to work in islands within their departments, resulting in a low level of mutual commitment, internal flow and communication. Different departments also seemed to have delimited responsibilities and did not feel connected, having separate goals and drivers and did not seem to share similar ambitions. Also, there seemed to be a large difference in how they interpreted and practisized corporate strategies. Therefore, an organisation-wide culture was hard to identify.

The set of remarks that relate to Adhocracy is relatively small. One with a dominant weight is that people responsible for the DGD project did not work together in a structured way. The operating core seemed to exist of dynamic, entrepreneurial people who were willing to stick out their necks and take risks. They took risks in the sense that nobody knew how the project story would end, being also typical for Adhocracy. A remark that negatively contributes to Ahocracy is that strategic focus hardly included looking for new challenges.

Together with those for Market, the most remarks relate to the Hierarchy organisational culture type. The remarks tell that the previous PoA Authority was a real bureaucracy and a controlled organisation with clear hierarchical lines. Except for the operating core, people were not characterized as very dynamic, entrepreneurial and willing to stick their necks out and take risks. This directly relates to another remark that management was not typically innovative, entrepreneurial and willing to take risks. Decisions were not taken when not fully discussed. The management showed partly coordination, organisation and smooth efficiency, only to a limited extent. Another remark that add up to Hierarchy is that the PoA Authority could be described as a passive landlord port since they used to take a biding role in situations of potential development in the port and did not actively seek or trigger potential synergies.

One remark that contributes two sided to the Market type, is that formally seen the PoA Authority is a structure organisation, however everybody knew there was still quite some freedom and made use of this. This resulted in a relatively messy organisation. The team of people working on the DGD project did not work together in a structured way, they were an unstructured totality including emergency elements that had to be pro-active and had to work out-of-the-box and from scratch. The Market related remarks include one that significantly adds up to the score on the axis, which is that the previous Port Authority maintained a strong results-oriented top-down direction. However, this did not happen in an aggressive way. The typical binding factors were achievement of results and formal rules. A remark that negatively contributes to the score is that in general people within the Port Authority did not have a typical results-oriented mentality. However, specifically those involved in the DGD project did have this mentality; they were competitive and driven by a clear goal, namely construction of the dock and making sure no conflicts would emerge. A remark that typically adds up to Market is that performances were always internally communicated in a quantitative way and it was a strong driver to win a part of mandate. A final remark that contrasts with Market is that the different departments involved along the project did not collaborate in a pro-active way.

Sub-conclusion Q3: The type of organisational structure that characterizes the PMV2 is certainly Adhocracy in combination with various characteristics of the Machine Bureaucracy, Simple Structure and Professional Bureaucracy. The type of organisational culture is dominated by the characteristics

of Clan and Adhocracy. The organisational structure of the PoA Authority during the DGD project was a combination of Simple Structure, Professional Bureaucracy and Adhocracy. The organisational culture was dominated by characteristics of Market, accompanied with a balanced mix of Hierarchy and Clan.

3.3 Present organisational structure & culture typification

From the Chapter that presents the results of this research, this Section addresses the fourth sub-question, Q4, which was formulated as follows: *'What type of organisational structure and – culture characterizes those in both Port Authorities involved during current large-scale port development projects?'*

The approach that was taken to come to the extensive descriptions of the present organisational structure and –culture of the PoR and PoA Authorities with respect to those involved in large-scale port development projects is similar to the approach taken to come to the extensive descriptions for the previous situations.

An overview of the interviewees approached with respect to the current PoR Authority and PoA Authority typifications and their position within organisations according to the Mintzberg model, can be found in Appendix 'E.3 Interviewee codings and their weightings'. Their answers and explanations given for each organisational structure dimension are overviewed in tables in Appendix 'E.5 Interview results •Port of Rotterdam Authority' and 'E.6 Interview results •Port Authority of Antwerp'. In the same appendix, the interviewee specific organisational structure typifications are overviewed that are developed by the use of Table 5 in Appendix 'B.2 Investigating organisational structure'. From this overview, the field of organisational structure types with the characteristics is developed which together represents the average typifications of the present Port Authorities.

Just as for the previous typifications, regarding the organisational culture the input to plot and describe the organisational culture has been gained from the same set of interviewees. The extensive overview of the scores and calculations towards the final plots of the present Port Authorities can be found in Appendix 'E.5 Interview results •Port of Rotterdam Authority' and 'E.6 Interview results •Port Authority of Antwerp'. The weightings used when developing the plots and the typifications can be found in Appendix 'E.3 Interviewee codings and their weightings'. The interviewee explanations and remarks by which the extensively described typifications of the organisations were developed are clustered, categorized and weighted in the tables that can also be found in Appendix E.5 and E.6.

This Section first provides the typifications of organisational structure and –culture of the current PoR Authority regarding those involved in port development, after which this is done for the current PoA Authority. It concludes with the sub-conclusion that provides answer to Q4.

3.3.1 Present PoR Authority

This Section covers the results regarding the present organisational structure and –culture of the PoR Authority with respect to port development projects. First the typification of the organisational structure is presented, after which this is done for the organisational culture.

Organisational structure typification

The organisational structure typification of the current PoR Authority, regarding those involved in current port development projects, is concisely overviewed in Figure 13 after which the extensive explanatory description follows.
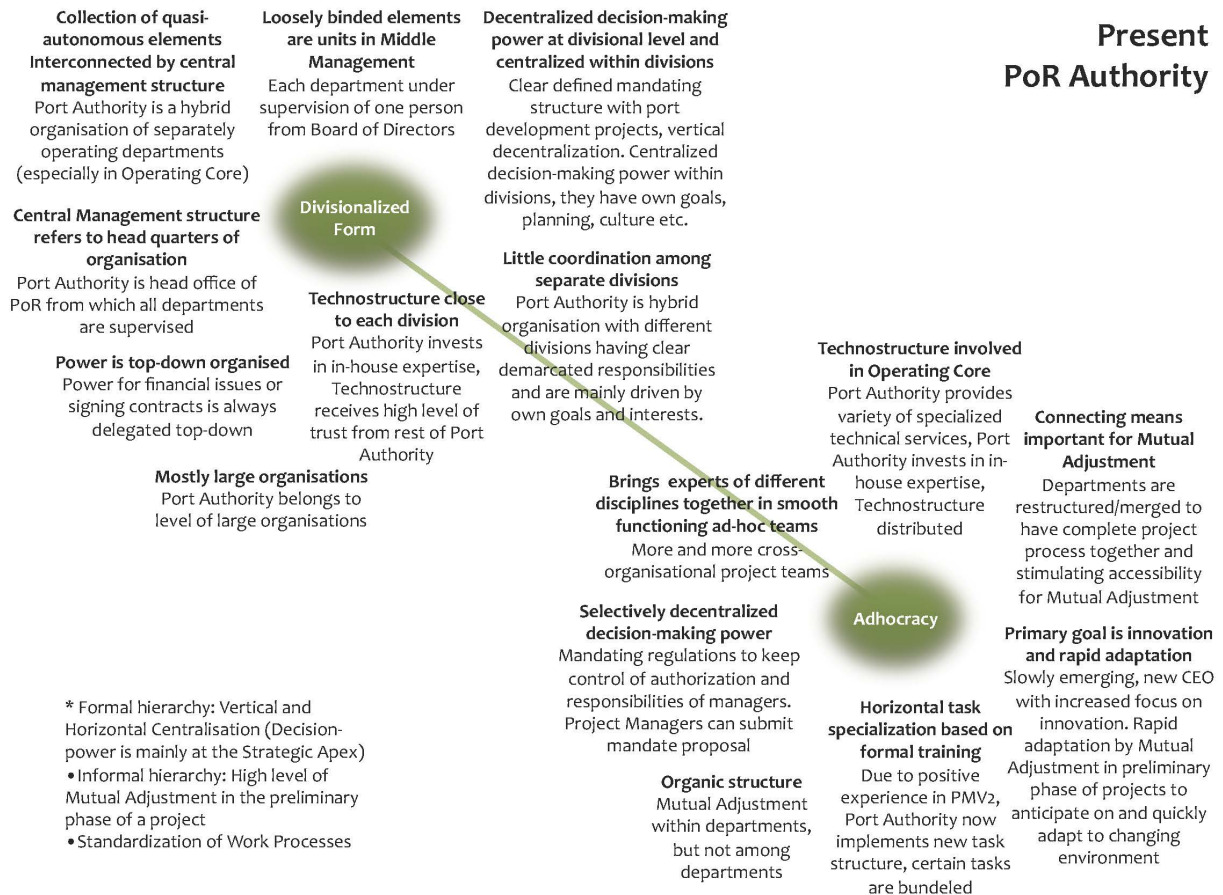
Present PoR Authority

Collection of quasi-autonomous elements Interconnected by central management structure
Port Authority is a hybrid organisation of separately operating departments (especially in Operating Core)

Central Management structure refers to head quarters of organisation
Port Authority is head office of PoR from which all departments are supervised

Power is top-down organised
Power for financial issues or signing contracts is always delegated top-down

Mostly large organisations
Port Authority belongs to level of large organisations

* Formal hierarchy: Vertical and Horizontal Centralisation (Decision-power is mainly at the Strategic Apex)
• Informal hierarchy: High level of Mutual Adjustment in the preliminary phase of a project
• Standardization of Work Processes

Loosely binded elements are units in Middle Management
Each department under supervision of one person from Board of Directors

Divisionalized Form

Technostructure close to each division
Port Authority invests in in-house expertise, Technostructure receives high level of trust from rest of Port Authority

Decentralized decision-making power at divisional level and centralized within divisions
Clear defined mandating structure with port development projects, vertical decentralization. Centralized decision-making power within divisions, they have own goals, planning, culture etc.

Little coordination among separate divisions
Port Authority is hybrid organisation with different divisions having clear demarcated responsibilities and are mainly driven by own goals and interests.

Brings experts of different disciplines together in smooth functioning ad-hoc teams
More and more cross-organisational project teams

Selectively decentralized decision-making power
Mandating regulations to keep control of authorization and responsibilities of managers. Project Managers can submit mandate proposal

Organic structure
Mutual Adjustment within departments, but not among departments

Technostructure involved in Operating Core
Port Authority provides variety of specialized technical services, Port Authority invests in in-house expertise, Technostructure distributed

Adhocracy

Horizontal task specialization based on formal training
Due to positive experience in PMV2, Port Authority now implements new task structure, certain tasks are bundeled

Connecting means important for Mutual Adjustment
Departments are restructured/merged to have complete project process together and stimulating accessibility for Mutual Adjustment

Primary goal is innovation and rapid adaptation
Slowly emerging, new CEO with increased focus on innovation. Rapid adaptation by Mutual Adjustment in preliminary phase of projects to anticipate on and quickly adapt to changing environment

Figure 13 - Field of present PoR Authority organisational structure typification including the cornerstone types and the interfacing characteristics of the current PoR Authority (developed by researcher)

The set of characteristics of the current PoR Authority that corresponds to specifically the Divisionalized Form and the set that corresponds to specifically Adhocracy have a relatively comparable size, meaning that there is quite an equal balance between the two organisational structure types.

Regarding the Divisionalised Form, a clear characteristic that is represented in the current PoR Authority is that it often refers to a large sized organisation that is a collection of quasi-autonomous elements, which are interconnected by a central management structure. This clearly corresponds to the PoR Authority since it is a large (12,000 employees as mentioned in Appendix 'C.1 PoR Authority and MV2 project') and hybrid organisation that consists of separately operating departments, especially in the operating core, and has a large head office from where the different divisions are supervised. These different departments of the PoR Authority each fall under the supervision of one person from the middle management (shown in the organogram of the PoR Authority, Figure 14) and operate in a separate way with little mutual coordination and clearly demarcated responsibilities. These are all typicalities that match a Divisionalized Form organisaion in which departments are loosely binded individual elements and units in the middle management among which only little coordination exists.
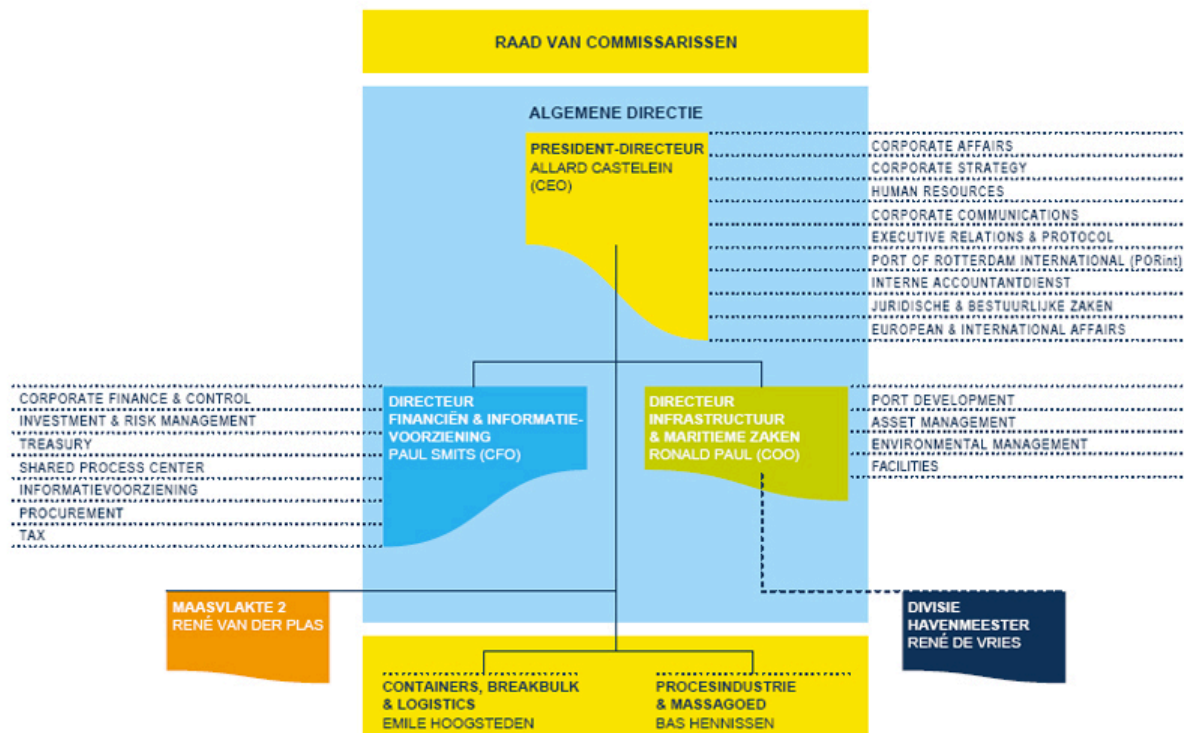
Figure 14 - Organogram of PoR Authority in which all departments and divisions (including the supervising middle managers) are represented (Havenbedrijf Rotterdam N.V., 2014)

Decision-making power within a Divisionalized Form is typically top-down organized, which can also be seen in the PoR by the fact that power for financial issues or signing contracts is always delegated top-down. This relates to the clearly defined mandating structure regarding PoR development projects that enables vertical decentralization towards divisional level, which is also typical for a Divisionalized Form.

Within the divisions of the PoR Authority decision-making power is mainly centralized and each of the division usually pursues its own goals, planning and culture, which are also typical characteristics of the Divisionalized Form. Another similar characteristic is that the technostructure is close to each division, since the PoR Authority invests strongly in in-house expertise; the technostructure within the PoR Authority seems to receive a high level of trust from across the organisation.

Another set of characteristics of the PoR Authority matches the Adhocracy organisational structure type. A first similarity is that a typical Adhocracy brings different disciplines together in smooth functioning ad-hoc project teams, which happens increasingly in an incremental way within that the PoR Authority since more and more cross-organisational project teams are established. Another characteristic of Adhocracy, that the organisation has an organic structure, could refer to the main coordination mechanism within departments is mutual adjustment. However as mentioned earlier, mutual adjustment used to happen mainly within departments rather than among departments. This is the reason why within the PoR Authority departments are restructured or merged to have a complete project process together and to stimulate accessibility for mutual adjustment, which is just like in a typical Adhocracy in which connecting means are important for mutual adjustment.

The PoR Authority also matches the Adhocracy regarding the selectively decentralized decision-making power distribution. Within the PoR Authority, this power is selectively decentralized since project managers have the opportunity to submit mandate proposals. Defined mandating regulations keep control of authorization and responsibilities of the project managers.

Relating to decision-making, in specifically port-service departments the power seems to be distributed over managers and non-managers on all levels of hierarchy, matching the nature of decisions to be taken. However for PoR development projects this is not a clearly represented characteristic.

Another similarity is that the organisational structure has a horizontal task specialization based on formal training, which is represented in the PoR Authority since the implementation of new task structure in which certain tasks are bundled. Furthermore, the technostructure in an Adhocracy structure is highly involved in the operating core, which can be clearly identified in the PoR Authority since it provides a variety of specialized technical services by support of a distributed technostructure and that the PoR Authority highly invests in in-house expertise.

A characteristic of a typical Adhocracy that is incrementally developing within the PoR Authority is the mentality in which the prime goal is to innovate and rapidly adaptate to the changing environment. The new CEO (recently positioned) aims to increase the focus on innovation. Also rapid adaptation by mutual adjustment in the preliminary phase of projects is done more and more to anticipate on and quickly adapt to emerging dynamics along PoR development projects.

Apart from the organisational structure field, from the interviewee remarks it seems that a couple of other outstanding typicalities of the current PoR are important to mention as well. They do not fit the Divisionalized Form nor the Adhocracy, however they do belong to the organisational structure configuration of the current PoR Authority.

One of these typicalities is that within the PoR Authority work processes are mostly standardized. The other typification is that there seems to be significant difference in the formal and informal hierarchy among employees of the current PoR Authority regarding those involved in PoR development projects. In the formal hierarchy, vertical and horizontal centralization is dominant since decision-making power is mainly centralized towards the Strategic Apex. In the informal hierarchy, employees operate with a high level of mutual adjustment in the preliminary phase of a project.

Organisational culture typification

Figure 15 shows the average final plot of the organisational culture of those in the current PoR Authority involved in port development. Subsequently, the explanatory description follows in which the insights gained from the interviewee remarks are shared.
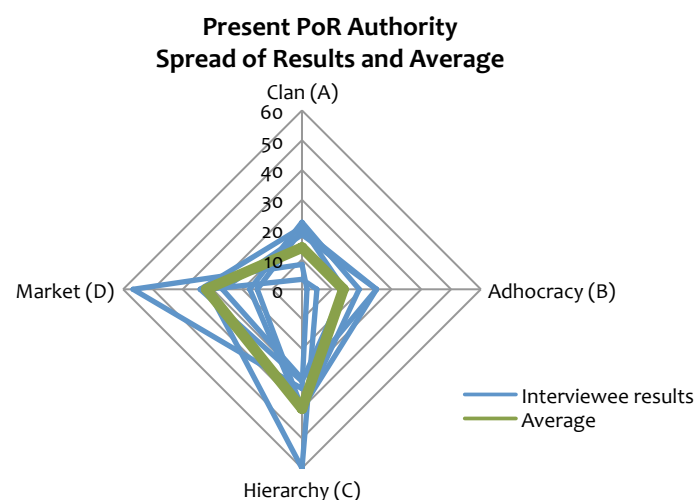
Figure 15 – Interviewee results and final average plot (developed by researcher) of the current PoR Authority organisational culture referring to those involved in large-scale PoR development projects

From the interviewee remarks that relate to Clan characteristics only few add up to the score on the axis. Those include that the pride to work for the PoR is a binding factor among employees within the PoR Authority. Everybody has the feeling that he or she is able to create added value. Another Clan typicality is that managers can be characterized as stimulators for employees to improve and develop. Employees are seen as the most important asset of the PoR Authority in which amounts of time and financial investments are done to have a better result. A final mentioned characteristic related to Clan is that in general people feel free for chatting on the work floor during the working day. A large set of other remarks refers to certain Clan characteristics of which the current Port Authority shows a lack. The strongest was that coherent goals among different departments seem to be missing; they seem to be driven by goals and interests of their own. Interaction among them is also limited, which counteracts effectiveness. Another mentioned characteristic is that the PoR Authority has transferred in recent years from an organisation with proud people who have high loyalty to the PoR, towards one in which people are less personally committed to the port. Since the privatisation, people see the PoR Authority more as entitiy that has to make profit. This relates to the remark that loyalty and trust does not seem to be very typical since people seem to interfere with eachothers responsibilities and multiple organisational layers are involved in decision-making. This strong system sometimes seems to counteract innovation. Related is that pride sometimes leads to miscommunication in decision-making, which can counteract power to change. Furthermore, responsibilities are very demarcated among departments and project leaders, which results in lack of 'we'-mentality. Project leaders stand alone, resulting in limited mutual involvement. Regarding the project leaders, it seems that they do not seem to be typically characterized as mentor, facilitator and stimulator. The treshold for a project team member to approach the project manager in case he or she struggles with an issue is quite high. Another characteristic opposite to Clan is that the mentality exists to keep knowledge to yourself instead of sharing it. Sharing of knowledge does not seem to be stimulated within the PoR Authority. This relates to another remark that there is no strong emphasis on personal development and maintenance of trust, openness and participation.

The set of mentioned characteristics that relate to Adhocracy is relatively small. One that adds up to the score on the axis is that within established project teams the focus-term (long-term/short-term) determines the culture that arises. This culture also seems to strongly depend on the certain mission and mandate of the project in case and thereby on the priority given to the project that influences dicisions, the amount of available resources and the extent of control. Project teams in the Port Authority normally do not have standard access to sufficient space in time and all resources they need to let their project run smoothly and focus 100% on only this project, from which the culture arises in which people do not have maximum control over everything. Although a slow increase can be identified in level of innovativeness, entrepreneurship and daring to take risks, a contradicting typicality seems that control sometimes becomes more important than taking risks. A final remark that apposites Adhocracy is that the PoR Authority does not have a typical nature of dynamic and creative character.

Regarding the Hierarchy type, most of the related interviewee remarks add up to the score on the axis. One strong characteristic is that processes are standardized and formal procedures are nowadays used to gain control on everybodies activities, representing a strict way of working. This results in an increasing efficiency of the organisation, however sometimes the standardization exceeds the content of the project. The Port Authority seems to be risk avoiding, meaning that as long as people operate as a team responsibilities are shared over the whole group. Also there is no strong focus yet on obtaining new resources for creation of new challenges, as ambitions are likely adapted instead of adapting the horizon of solutions in case when ambigious plans do not seem to work out. Another corresponding characteristic is that multiple organisational layers are involved in decision-making. Furthermore, it seems that middle

managers are not typically triggered to change positions and are often not typically dynamic and entrepreneurial. Related to this, it seems that the management is intended to show coordination, organisation and smooth efficiency but that this does not naturally seem to clearly appear yet in practice. Furthermore, as also mentioned in the Clan type, in general people feel free for chatting on the work floor however it seems that work is clearly the main priority. This relates to the remark that the PoR Authority can best be described as a task-organisation. The only remark that relates to the Hierarchy in an opposite way is that the PoR Authority is a rather unwieldy organisation with a municipal character. However nowadays this character is incrementally decreasing due to small reorganisations.

From the interviewee remarks, a relatively large set corresponds to Market characteristics. The strongest one is that people tend to maintain their control, resulting in a controlled and structured environment. Another corresponding typicality is PoR Authority employees in the recent years see the organisation more and more as entity to make profit resulting in striving for success of the PoR and fanatism in not taking losses for granted. People now feel more challenged compared to the period during and before privatisation. This clearly changed the mentality and thereby the organisational culture. Furthermore, working standards are high and employees are seen as the most important asset of the PoR Authority, in which large amounts of time and financial investments are put to have a better result.
In general, it seems that employees find the PoR Authority a great place to work in and work for, which clearly shows by the relatively long time people stay working for the organisation.

3.3.2 Present PoA Authority

This Section covers the results regarding the organisational structure and –culture of the current PoA Authority regarding those involved in port development projects in similar sequence as the PoR case.

Organisational structure typification

The organisational structure configuration regarding those of the PoA Authority who are currently involved in port development is presented in Figure 16. Subsequently the extensive description is provided including explanatory examples.

Present
PoA Authority

Hardly any formalized behaviour and use of planning and binding means
Shifting towards Standardization of Work Processes

Complex in practice
Hybrid organisation with complex organisational structure of various specialized departments. Port development projects concern a complex totality of factors. Complex decision-making power distribution, no monopoly on Linkeroever.

Simple Structure

Organic structure
Organic in the sense of Mutual Adjustment is not like present Port Authority. However Mutual Adjustment is increasing among departments by more structured approach for large-scale port development projects.

Strong formalized procedures
Standardization of Work Processes in departments of Operating Core

High degree of formalization and work specialization
More and more individually and output focused job appointments, standardization of outputs and skills.

Distributed decision-making power, matching nature of decisions
Depending on case decision-making power is decentralized to Middle Management

Experts of different disciplines are brought together in smooth functioning ad-hoc teams
Mutual Adjustment between departments involved in port development project, formal and informal, Project Teams are composed in which different departments are represented

Overload of rules, regulations and formalized communication
Standardization is increasing to increase project control (Negotiation procedures, project team structures, time-management)

Relatively centralized decision-making power
Vertical and Horizontal Centralization, decentralization to Middle Management depends on case

Low formalization and decentralisation
Low amount of Direct Supervision, slowly increasing Standardization of Work Processes and outputs. High level of Vertical and Horizontal Centrlization

Machine Bureaucracy

Adhocracy

Technostructure & Support Staff are large organisational elements
Technostructure very important (engineers for construction work of port development projects), Support Staff very important (during preparation phase of port development projects for support on juridical aspects, performance of specific studies, providing other services. Both also key role in development of new strategies rolled out in Port Authority.

Relatively large Support Staff
Important during preparation phase of large-scale port development projects for support on juridical aspects, performance of specific studies, providing other services.
Both also key role in development of new strategies rolled out in Port Authority.

Connecting means important for stimulation of Mutual Adjustment
Connecting means are being developed (e.g. project teams stimulate Mutual Adjustment between different departments)

Organic structure with hardly any formalized behaviour
Procedures for project progress are not standardized, every project has own organisational structure, Steering Committee and work groups

Figure 16 - Field of present PoA Authority organisational structure typification including the cornerstone types and the interfacing characteristics of the current PoA Authority (developed by researcher)

The set of characteristics of the current PoA Authority that matches the Simple Structure is relatively small compared to the other two organisational structure types that form the organisational structure field.

A characteristic that strongly matches the PoA Authority with a Simple Structure is that the organisation is complex in practice. The current PoA Authority is a hybrid organisation with a complex organisational structure of various specialized departments. This can be seen by the organogram of the current PoA Authority, Figure 17. Another characteristic of the PoA Authority that relates to this is the complex decision-making distribution regarding PoA development projects because of the fact that the Port Authority does not have a monopoly on the Left bank. The Left bank is the area in which the Seafthinge Zone is located, which is the remaining available area in which the PoA Authority is planning to develop.

Another similarity between a Simple Structure and the PoA Authority is that along PoA development projects, the organisation hardly has any formalized behaviour and hardly makes use of planning and binding means. This used to be strong in the past, however nowadays the organisation is more and more shifting towards the standardization of work processes.

This relates to the corresponding typicality of the organisation having an organic structure, which used to be a strong similarity since the PoA Authority used to have a very organic sense of mutual adjustment. However recent developments show that mutual adjustment among departments is increasing by a more structured approach in case of large-scale PoA development projects.

One characteristic that does not seem to match between the Simple Structure and the previous PoR Authority is having hardly any technostructure.
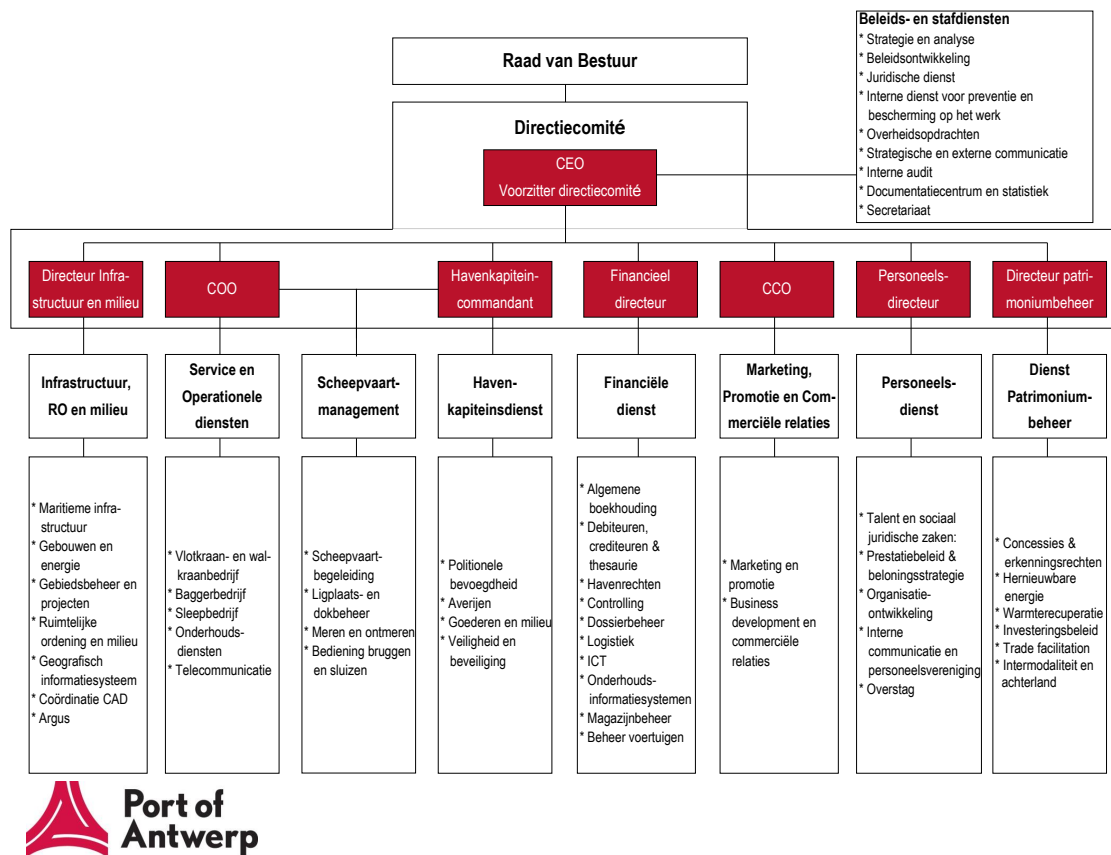
Figure 17 - Organogram of current PoA Authority (Port of Antwerp, 2014)

The set of characteristics of the current PoA Authority that matches the Machine Bureaucracy is larger compared to the set that matches the Simple Structure. One of the remarkable similarities is that the technostructure and the support staff are large elements within the organisation. Within the PoA Authority, the technostructure (referring to the engineers for construction work of PoA development projects) and the support staff seem to be very important. The support staff is specifically important along the preparation phase of the PoA development projects regarding their support on juridical aspects, performance of certain studies and provision of other services. Additionally, both the technostructure and the support staff have a keyrole in the development of new strategies to be rolled out in the PoA Authority.

An aspect typically characteristic for the Machine Bureaucracy is the overload of rules, regulations and formalized communication. This aspect is slowly more and more represented in the current PoA Authority, as also mentioned in the Simple Structure part. Standardization, for example with respect to negotiation procedures, project team structures and time management, is increasing to improve project control. This also relates to the corresponding characteristic, typically for Machine Bureaucracy, that there is a high degree of formalization and work specialization; More and more individually and output focused job appointments are being made and standardization of outputs and skills is slowly increasing.

Furthermore, a strong similarity is the relatively centralized decision-making power within the organisation. This refers to the vertical and horizontal centralization within the PoA Authority. However, depending on the case, decision-making power is sometimes also decentralized towards middle management level.

Another similarity between a Machine Bureaucracy and the current PoA Authority are the strong formalized procedures, however this specifically refers to the standardized work processes in departments of the operating core and not to specifically PoA development projects. The same goes for the similarity that the operating core represents large-scale units.

A Machine Bureaucracy also typically refers to an organisation that performs strongly specialized routine work, which could correspond to the operational services that the PoA Authority provides and not to specifically PoA development projects.

The remaining characteristics of the PoA Authority include those that correspond to the characteristics of the Adhocracy organisational structure type. This remaining set is relatively large compared to the Simple Structure and the Professional Bureaucracy.

One of the strong similarities between the Adhocracy organisational structure type and the current PoA Authority with regard to PoA development projects is that experts of different disciplines are brought together in smooth functioning ad-hoc teams within the organisation. Within the PoA Authority, mutual adjustment takes place between the different departments involved in a certain PoA development project in a formal and informal way. Project teams are composed in which different departments are represented. This corresponds to the typical characteristic of an Adhocratic organisation that a connecting mean to stimulate mutual adjustment is important.

However, the PoA Authority still can be characterized as having an organic structure with only low amounts of formalized behaviour. This was already mentioned as similarity in the part of the Simple Structure, but is also typical for an adhocratic organisation. Nothwithstanding the fact that standardization of processes is slowly increasing within the PoA Authority, procedures for project progress do not seem to be clearly standardized yet, since every project seems to have its own organisational structure, steering committee and work groups.

Another corresponding typicality of Adhocracy is that the organisation has a relatively large support staff. In the PoA Authority the support staff seems to be important during the preparation phase of large-scale PoA development projects, which was already mentioned and explained as a similarity with the Machine Bureaucracy type of organisational structure.

Regarding decision-making, in typically Adhocratic organisations, the power is distributed through the organisation, which matches the nature of decisions to be made. This can also be seen in the PoA Authority regarding the earlier mentioned aspect that, depending on the case, decision-making power is decentralized to middle management level.

A typicality of an Adhocracy that does not seem to strongly correspond to the current PoA Authority regarding PoA development projects, is having innovation and rapid adaptation to changing environment as a prime goal.

Organisational culture typification

Figure 18 provides the average final plot that represents the organisational culture typification, after which again the explanatory description follows.

**Present PoA Authority
Spread of Results and Average**
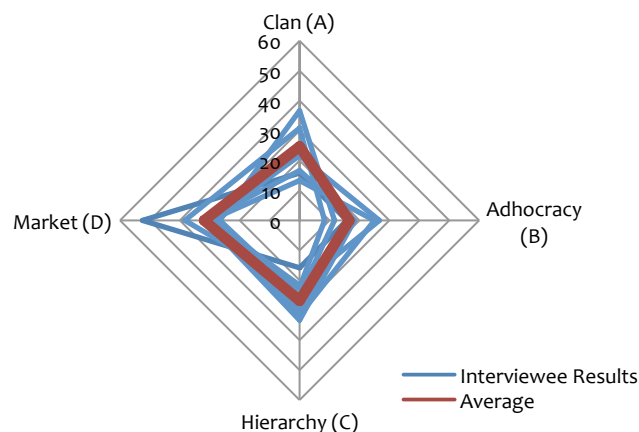
Figure 18 – Separate interviewee results and final average plot (developed by researcher) of current PoA Authority organisational culture referring to those involved in large-scale PoA development projects

From the interviewee remarks that relate to organisational culture characteristics a relatively large set belongs to Clan, however the majority in an opposite way. One of the few remarks that add up to the Clan score is that nowadays performance is internally communicated not only quantitatively but also added value is seen as more and more important, which seems to be one of the biggest internal changes that took place in recent years. The management is also typically like a mentor, facilitator and stimulator and nowadays tends to be more involved on content level. A final Clan typicality is that more and more organisational elements (technostructure and middle management) instead of only the board of directors are involved in development of business plans. The organisational identity is more and more seeping through the organisation.

A Clan related remark that negatively contributes to the score on the axis is that different departments do not feel connected; there is no strong 'we'-feeling. They have separate goals and drivers and do not share the same ambitions, stimulating an 'island' culture with different kingdoms especially in the operating core. Because the Port Authority is a typical hybrid organisation, there is a large difference in how departments interpret and practisice corporate strategy because of which an organisation-wide culture or feeling of working together for a corporate mission is hard to identify. Another remark opposite to Clan is that the organisation is becoming a more structured place that seems to decrease the extent of personal character. Loyalty, mutual trust and openness do not seem to belong typically to the natural mentality and strongly depend on the department and management. This relates to the five behaviour appointments that nowadays are distributed and promoted in the PoA Authority to stimulate these aspects. The behaviour appointments refer to collaboration, trust, internal innovation, respect and being customer focused. People are also evaluated on these core values. Another remark that contrasts with Clan refers to the difference that can be identified in work-drive between the permanent statutory employees (from before the privatisation of the PoA Authority) and the contract basis employees. Something that contributes to Clan on higher organisational level is that on behalf of the total port community, a higher focus on external communication for the creation of external support for the port and the development of it can be identified. Increasing external focus of the Port Authority emerged in the recent years and influences the organisational culture. Finally, a characteristic that is typically for a Clan culture is the staff association that contributes to sustainable focus on personnel. Via the staff association employees are triggered to interest, to be impressed about and to get involved in the port.

From the interviewee remarks only a few relate to Adhocracy, however each of them does add up to the score. The strongest matching characteristic is that the PoA Authority seems to be a dynamic organisation, however referring specifically to people in the operating core being dynamic, entrepreneurial and willing to take risks. Furthermore, strategic focus on new challenges and developing the port in a sustainable way is increasingly stimulated, shown by the increasing focus on and support for development of new innovation policies within the organisation. A final remark that adds up to Adhocracy is that internal collaboration seems to be stimulated nowadays via ad-hoc multidisciplinary project teams and that the organisational culture that arises seems to strongly depend on the involved people and especially the team manager.

The set of interviewee remarks that belong to Hierarchy is relatively large and all contribute to it. One mentioned characteristic is that port development projects nowadays proceed in a more structured way than before due to increasing structure and control from the higher levels within the Port Authorities. This also relates to the remark that it seems to be a very controlled and structured organisation regarding the clear hierarchical lines and a centralized decision-making power distribution in which the management does not easily deleegate responsibilities. Decision-making processes are strongly determined by the typically politicized character of the Board of Directors. Typically for Hierarchy culture, the natural character of specifically the management does not seem to be typically entrepreneurial, innovative and risk taking and also employees are not very daring. Taking risks has reduced in the PoA Authority; because of standardization people are more committed to their goals. Another strong corresponding typicality is that the PoA Authority seems to be bureaucratic with a management style of high demands. Formalities and focus on policies are increasing within the organisation under the increasing aim to professionalize; however the mentality sometimes is still missing. Contrasting however is that the Port Authority does not seem to be a structured organisation; referring to that many activities proceed in an organic way. Overall, a corresponding remark with Hierarchy is that the organisational culture seems to be quite stable.

Together with the set of Hierarchy related remarks, the set of those related to Market is the largest. The most typical Market characteristic is that the Port Authority seems to be taking a more and more active role than before (e.g. seeking for and triggering potential synergies within the port), referring to the shift from passive landlord port to an active landlord port. The more external and open focus of the PoA Authority that has emerged in the recent years influences the organisational culture, since people are becoming more internally and externally oriented. A related shift can be identified from a governmental organisation towards a more competitive one. Employees are more and more willing to be front-runner within the market. This relates to the remark that overall the PoA Authority does not seem to be very competitive and results-oriented, however that project teams regarding port development projects are. New generations within the PoA Authority also seem to be more striving and results-oriented. The overall attitude is becoming more pro-active in that sense, however this certainly does not seem to refer to all departments. Another contrasting remark is that the overall PoA Authority does not seem to be typically dynamic and entrepreneurial since making profit is not the main goal. Another Market related characteristic is that the PoA Authority maintains strong results-oriented job appointments in top-down direction (on department and employee level), however not in an aggressive way.

Sub-conclusion Q4: The type of organisational structure that characterizes the present PoR Authority with respect to those involved in port development is a combination of Divisionalized Form and Adhocracy. The type of organisational culture is dominated by characteristics of Hierarchy and Market. Regarding the present PoA Authority, the organisational structure is a combination of

Simple Structure, Machine Bureaucracy and Adhocracy. The organisational culture is dominated by characteristics of Market, accompanied by a balanced mix of Hierarchy and Clan.

3.4 Main changes in working approach since port development project

Additional to the investigation of the previous and present organisational structure and –culture, a timeline is constructed with key events and the concomitant internal organisational changes in working approach within the PoR and PoA authorities along and since respectively the MV2 and DGD project. These overviews run from the year that the projects were at their base of development, until now. From these changes some might have emerged due to the lessons-learned from the MV2 and DGD project, however some possibly due to other internal or external happenings.

The overviews of internal changes contributes to the insights to what extent the Port Authorities have been changing their organisation to improve effectiveness with respect to large-scale port development projects and thereby contributes to answering the sub-question Q5. Q5 was formulated as follows: *'What are the main changes in working approach in the PoR Authority and the PoA Authority with respect to port development since respectively the MV2 project and the DGD project?'*

The overviews of organisational changes in working approach for both cases can be found in Appendix 'F Overviews of changes in working approach'. They are an extension of the timelines with key events and affected actors that were developed for Section '3.1 Introduction to cases' for the MV2 and DGD project.

The overviews in the Appendix are used later on in Section '4.1.3 Long-term preservation of MV2 related changes in working approach' and Section '4.2.3 Long-term preservation of DGD related changes in working approach' to analyse the long-term influence of the projects on the Port Authorities.

This Section provides the summarizing description for the PoR and PoA case of the main changes in working approach in the Port Authorities along and since the MV2 and DGD project. It concludes with the sub-conclusion that provides answer to Q5.

3.4.1 PoR Authority

Regarding the PoR Authority, the MV2 is successfully constructed due to a clear strategy defined in advance. Changes to improve the organisational effectiveness happened in a direct way via establishment of the PMV2 as a delineated and short-term impact on the organisation, driven by a clear strategy. Some new working approaches of the PMV2 were specifically established for the MV2 project to ensure exceptional priority to project progress. Those suit specifically the MV2 project and PMV2 characteristics. Other effective new working approaches of the PMV2 were not exceptionally suitable for the MV2 project and PMV2, from which however only some have been rolled out within the PoR Authority. The main changes in working approach in the PoR Authority that relate to the MV2 project are standardization and formalization tools to stimulate and standardize internal and external mutual adjustment along projects and integrate involved disciplines, and to facilitate control along hierarchical lines of outputs and progress.

3.4.2 PoA Authority

Regarding the PoA Authority, the DGD is successfully constructed after an organic and uncontrollable approach. Changes to improve organisational effectiveness did not happen along the DGD project, because this was not assumed as a priority in that time. Along the DGD project

mainly mentality shifts have started within the PoA Authority. Awareness about the need for improving effectiveness emerged during the DGD project. New working approaches in the PoA Authority that relate to the DGD project to improve organisational effectiveness with respect to port development happened over the years in an incremental way as a delayed long-term impact on the organisation. New working approaches seem to have been adopted when organisational structure and –culture characteristics were suitable for the PoA Authority to put priority on effectiveness improvement with respect to port development. The main changes in working approach in the PoA Authority that relate to the DGD project are mentality and attitude shifts throughout the major part of the organisation to be more pro-active, externally oriented, and focused on new challenges, accompanied with increasing standardization with respect to stakeholder involvement, risk management and project planning.

Sub-conclusion Q5: The main changes in working approach in the PoR Authority with respect to port development since the MV2 project are the exceptional establishment of an autonomous projectorganisation responsible for the execution of a port development project with exceptional abilities and organisational characteristics (the PMV2) and the implementation of standardization and formalization tools to improve mutual adjustment, integrate disciplines and facilitate control along hierarchical lines. The main changes in working approach in the PoA Authority with respect to the DGD hardly happened during the project but were implemented after completion of it, including increased standardization with respect to stakeholder involvement, risk management and project planning.

4. Analysis & Interpretation of case results

The part of processing all the information obtained from the interviews and consulted sources in order to understand the research context and answer the sub-questions until Q5 is now finished. This chapter focuses on answering Q6, which was formulated as follows: *'What is the long-term effect of the MV2 project on the PoR Authority and of the DGD project on the PoA Authority?'*

To come to the sub-conclusion for Q6, the results just presented now have to be brought together. Therefore the analysis phase of this research has different points of view (overviewed in Section '2.4 Final working approach according to research methodological framework'). In the upcoming sections first the analysis is presented after which the observations are concisely presented in the boxes. Subsequently the interpretation of the observations follows. The interpretation addresses the question what the observations along the analysis phase could mean. For the interpretation, the following determinants are taken into account:
- All organisational structure and –culture characteristics of the typifications and changes in working approach since the MV2 and DGD project
- The identified national culture characteristics presented in Section '3.1.4 National culture characteristics of the Port Authorities'
- The interviewee profiles (experience, position and focus within organisation) presented in Appendix 'E.3 Interviewee codings and their weightings'
- Internal and/or external factors affecting the Port Authorities but exceed the focus of this research
- Bias phenomenon (especially when interpreting organisational culture related results. These concern higher amount of personal interpretation due to their abstractness and personal experience and are therefore more sensitive for the phenomenon compared to for example investigation of organisational structure) explained in Appendix 'B.3 Investigation of organisational culture'.

An additional interpretation step, in which the results of the iterative feedback step are used, focuses on the extent of representativeness of the developed organisational structure and –culture typifications. This extent is analysed to indicate the usability of the used research methodological framework.

This chapter first provides the analysis and interpretation of the PoR case, after which the same is done for the PoA case. As maybe surprising, this Chapter does not include an extensive comparative analysis of the PoR and PoA case with respect to eachother. This is because comparing the effectiveness of both Port Authorities would not answer the research questions of this research so would not solve the research problems. The main focus of this research lies on development and application of a research methodological framework by which the long-term effectiveness of organisations can be investigated, and not on challenging the two biggest and competing seaports of Europe on their effectiveness regarding possible future port development projects. However, a very brief comparison will be made between the research results of both cases and the extent the PoR and PoA Authorities have learned from respectively the MV2 and DGD project on the long-term. This brief comparison is covered in the final Section of this Chapter. In this reflection will be touched upon the most remarkable observations in the analysis phase of this research. This chapter will finalize with the final sub-conclusion that provides answer to the final sub-question Q6.

4.1 Analysis & Interpretation (Case: PoR Authority)

This Section presents the different analysis steps (with respect to the above mentioned points of view) regarding the PoR case study results presented in previous Chapter. The observations that are presented in the boxes are subsequently followed by the interpretation according to the mentioned determinants.

4.1.1 Difference and similarity in organisational structure typifications

In this part the difference and similarity is analyzed between the typifications for the organisational structure of the PMV2 and of the current PoR Authority regarding those involved in PoR development projects. Interpretation of the observations leads to understanding about what the long-term effect of the MV2 project is on the effectiveness of the PoR Authority with specific regard to the organisational structure.

Analysis

From the five organisational structure types that Mintzberg (1983) distinguishes, the organisational structure field of the PMV2 (presented in Section '3.2.1 Previous PoR Authority (PMV2)', Figure 7) seems to consist of a combination between three of them: Machine Bureaucracy, Simple Structure and Adhocracy. That of the current PoR Authority (presented in Section '3.3.1 Present PoR Authority, Figure 13) seems to consists of a combination of two of the five organisational structure types: Divisionalized Form and Adhocracy.

Similarities can be observed between the PMV2 and the current PoR Authority. Firstly, both the PMV2 and the current PoR Authority organisational structure configurations contain the Adhocracy type.

In both organisations connecting means are important for mutual adjustment, however the mean is different. In the PMV2 mutual adjustment happens via the Review Team to review and solve emerging issues and in the current PoR Authority by the restructuring and merging of departments to have the complete project process close integrated. So the connecting mean is important for both, however different.

Also both bring experts of different disciplines together in smooth functioning ad-hoc teams. The PMV2 is established as a collection of experts that would start working together according to the predefined structure and -culture as a smooth functioning department. The PoR Authority also brings experts of different disciplines together more and more by establishing cross-organisational project teams.

Furthermore, from both the structure is organic, however in a different way. The PMV2 always had a very flexible and open way of mutual adjustment internally among employees, but also externally with all involved parties. In the PoR Authortiy, the organic structure refers to the mutual adjustment that takes place within departments especially in the preliminary phase of a project. So both are characterized as having an organic structure, but in a very different way.

Both also have a selectively decentralized decision-making power enabled by the mandate structure. In the PMV2 the distribution of mandate enables decentralized decision-making power towards project managers, which is similar to the mandate structure in the current PoR Authority. Another similarity is that both have high focus on work specialization and in-house expertise. The PMV2 is a total of internally and externally collected experts properly selected for the certain phase of the MV2 project. The current PoR Authority invests in in-house expertise and the specialists and analysts in the organisation receive a high amount of trust.

An increasing similarity can be seen regarding the standardization of work processes. In the PMV2 standardization is represented by the PRINCE2 project management method and by the CMO1 contract form for control of the project and the standardization of outputs. In the PoR Authority

an increase can be seen throughout the last few years in the standardization of work processes; PRINCE2 is being rolled-out throughout the organisation.

Centralized decision-making power is comparable between both. In the PMV2 the MT always makes the final decisions. In the PoR Authority, regarding the formal hierarchy, decision-making power is in general vertically and horizontally centralized since the decision-making power is mainly at the strategic apex of the organisation.

However, there are also clear differences to be observed. Firstly, the prime goal seems to be different regarding the mentality. The PMV2 has a dynamic, innovative and decisive character to anticipate on and solve complex situations as quickly as possible. In the PoR Authority, being dynamic and innovative is slowly emerging but not a prime goal yet.

Both are different regarding formalization of behaviour. In the PMV2 collaboration happens with an informal attitude and the MT is accessible and open way of direct supervision. Also the relationship with external partners is pleasant, open and harmonious. This is not typical for the PoR Authority.

Furthermore the collaboration between disciplines is different. The delineation of responsibilities from different disciplines within the organisation is different in the PMV2 and current PoR Authority. In the PMV2 employees have overlapping tasks so there is no strict delineation of responsibilities, whereas in the current PoR Authority departments have clear demarcated responsibilities and are mainly driven by their own goals and interests.

Another difference is the hierarchical structure and integration. The PMV2 is a very flat and integrated organisation with a small middle management and MT and high collaboration between departments. The PoR Authority is a collection of quasi-autonomous elements that are interconnected by a central management structure.

Also their goal and vision are different. The PoR Authority is a hybrid organisation that consists of different departments that provide different services and have different goals and interests, whereas the PMV2 has one clear goal and vision and consists of employees that all focus on this goal and vision.

Observation 1 – Difference and similarity in organisational structure

Regarding organisational structure, clear similarities and clear differences exist between the PMV2 and the current PoR Autority.

The observed similarities are:
- For both connecting means are important for mutual adjustment (however happen in a different way)
- Both bring experts of different disciplines together in smooth functioning teams
- Both can be characterized as having an organic structure (however in a different way)
- Both have a selectively decentralized decision-making power distribution enabled by a mandate structure
- Both have high focus on work specialization and in-house expertise
- Increasing similarity regarding standardization of work processes
- Centralized decision-making power is comparable

The observed differences are:
- Prime goal regarding the mentality
- Formalization of behaviour
- Hierarchical structure and integration
- Goal and vision

Interpretation

From the observed similarities many include a side-note about how the characteristic does seem to differ in practice. Examples are the mandating structure and standardization of work processes via SOM and PRINCE2 for example. An explanation for this difference could be that well thought predefined strategies and goals prioritised the development of certain characteristics and resulted in a different way in how these would come to practice within the PMV2 than how they

would have in other projects of the PoR Authority. Regarding certain PMV2 organisational structure characteristics, the long-term effect depends on the priority given in other projects for the development of these characteristics. Because the PoR Authority also seems to be characterized with an organisational culture that is typically results-oriented, optimization can be expected of the way in which the organisational structure characteristics that are similar to the PMV2 are practiced. Another observed similar characteristic is the organic structure that means clearly something different for the PMV2 than for the PoR Authority, which might have been interpreted differently by the interviewees; the PMV2 interviewees refer something that counted throughout the entire project (having one goal with one team and shared mentality, drivers and integration of disciplines), whereas the PoR Authority interviewees refer to a conscious phase prior to a project. However, an observed change in working approach is that departments in the Port Authority are being restructured to integrate project phases and responsibilities and to stimulate mutual adjustment to improve effectiveness and readiness along different project phases. Another observed similar characteristic between the PMV2 and PoR Authority is the centralized decision-making power. This however should be interpreted differently since in the PMV2 centralized decision-making power is probably experienced as less top-down organized than within the PoR Authority regarding their contrasting organisational culture characteristics (extent of 'we'-feeling, accessibility of project leaders, openness, mutual trust and intensity of hierarchical structure). The same organisational culture characteristics probably also determine the interviewee perceptions about formalized behaviour within the organisation in which they operate. In the PMV2, in which the characteristics are of relatively high level, this results in the more flat organisational structure, whereas in the contrasting PoR Authority these perceptions result in more vertical hierarchical structure. This strong difference in organisational culture characteristics and perceptions probably resulted in a limited long-term effect of the hierarchical structure and integration in the PMV2 on the PoR Authority. Furthermore, observed similarities organisational structure characteristics could also have been caused by national culture characteristics that count for both. For example the selectively decentralized decision-making power distribution corresponds to the relatively low score on Power Distance.

4.1.2 Difference and similarity in organisational culture typifications

In this Section the difference and similarity is analyzed between the organisational culture of the PMV2 and the current PoR Authority regaring those involved in PoR development projects. To make a clear comparison, Figure 19 shows the average plot for both the PMV2 and the current PoR Authority that were presented in Chapter '3 Case results – Port of Rotterdam & Port of Antwerp' together in one graph. The analysis is based on these plots and on the overviews of the clustered and categorized remarks, which can be found in Appendix 'E.5 Interview results •Port of Rotterdam Authority'.

The plot of the PMV2 is constructed from the following scores of the four organisational culture types: Clan: 36, Adhocracy: 25, Hierarchy: 20 and Market: 18. The plot of the current PoR Authority is constructed from those: Clan: 14, Adhocracy: 14, Hierarchy: 40 and Market: 32.
These final average scores are presented in the overviewing sheet of results from the quantitative organisational culture part of the performed interviews, which can be found in Appendix 'E.5 Interview results •Port of Rotterdam Authority'.

Organisational culture
Previous (PMV2) and Present PoR Authority
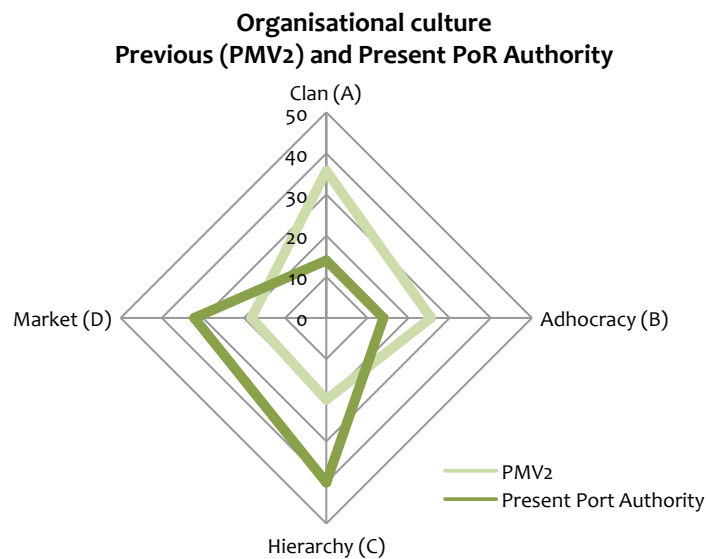
Figure 19 - Final average organisational culture plots (developed by researcher) of the PMV2 (previous) and regaring those in the PoR Authority currently involved in port development projects (present)

Analysis

An obvious observation when analyzing these overlapping plots is that the scores of the PMV2 and the current PoR Authority are on non of the four axes similar nor near eachother. The shapes of the plots are clearly different. The major difference is that both are the mirrored shape of eachother. The two dominant organisational culture types of the PMV2 correspond to the less represented ones of the PoR Authority and the two less represented organisational culture types of the PMV2 correspond to the dominant ones of the PoR Authority.

A remarkable similarty with regard to the Clan organisational culture type is the role of managers and how they see the importance of their team members. In the PoR Authority this refers to the fact that the management can be characterized as stimulators for employees to develop and that employees are seen as most important asset of the organisation. In the PMV2 this refers to leaders trying to get the best out of their teams; there was a high level of mutual respect and acknowledgement of eachothers importance and involvement.

Another similarity that refers to Clan is that people are proud of their organisation. In the PMV2 collective pride was always a strong binding factor. In the current PoR Authority, pride to work for the PoR is also a binding factor. People are binded with the main vision of developing the PoR to an excellent level.

Clear similarities regarding the Market characteristics are that people strive for success and are fanatical. In the PMV2 people are characterized as being hard workers and their clout (impact force) was a strong characteristic. In case of a drawback the MT drove the mentality of 'going for it', 'we will not let this cause failure of the project' and that things are possible if you really want it. The culture is described as no-nonsense and being very driven and results-oriented. Regarding the PoR Authority, people also strive for success and are fanatical. They do not take a loss for granted. People also feel more challenged nowadays compared to the period during and before the privatisation. The drive for success is also shown by the high time and financial investments in employee development to achieve successes.

Closely relating to the drive for success is the results-oriented mentality by which both organisations can be characterized.

Another clear similarity is the high working standards that are maintained in both the PoR Authority and the PMV2. In the PMV2 high expectations of skills exist. In the current PoR Authority it is mentioned in the interviews that working standards are high. However this remark

was made with the side-note that in some cases internal competitiveness can be identified among employees. This is strongly contrasting with the PMV2, where mutual competitiveness did not seem to exist; PMV2 employees rather had the nature to wish for eachothers successes.

The emphasis on personal development, trust, openess and participation is very different. In the PMV2 the focus was on personal development, resulting from the overall aim to be a learning organisation. In the current PoR Authority, there seems to be no strong emphasis on personal development and maintenance of trust, openess and participation.

Related to this, the extent of mutual trust is also different. The high level of mutual trust was always a strong characteristic of the PMV2. People did not unfavourably interfer with each others responsibilities. In the current PoR Authority people feel willing to give an opinion before a decision is taken. Multiple organisational layers are involved in decision-making.

Another clear difference is the unity of the goals for which people work. In the PMV2, people clearly worked together for the same goal with a 'one team, one goal' mentality. In the current PoR Authority a coherent goal seems to be missing on overall level; Departments are often driven by their own goals and interests. In some cases a political mentality can be identified.

Related to this is the difference in 'we'-feeling in relation to project leaders. In the PMV2 there was a strong 'we'-feeling and responsibilities were felt by everyone instead of only by the project leader. In the PoR Authority this 'we'-feeling is low; project leaders stand alone, which results in limited mutual involvement. Sometimes individual pride or interests stand in the way to make effective decisions with respect to innovation.

This relates to another significant difference regarding knowledge sharing. In the PMV2, people aimed to share knowledge and help eachother out. The mentality of knowledge sharing was highly stimulated. In the PoR Authority people tend to have a mentality of keeping knowedge for oneself instead of sharing it and overall knowledge sharing is not typically stimulated.

Accessibility of project leaders is also clearly different. In the PMV2 the treshold to approach project leaders seems to be very low, also supported by the mentality that everybody wanted to help eachother out in case somebody struggled with an issue. In the current PoR Authority, the treshold is relatively high to approach the project leaders.

Another remarkable difference is the extent of dynamic, creative and flexible character. The PMV2 could be typified as being smooth, dynamic and professional. People were required to be flexible to every new phase of the MV2 project. They had to quickly mind-swith and continue in case of changing context. The PMV2 represented an entrepreneurial place. Regarding the PoR Authority, innovativeness, entrepreneurship and daring to take risks is slowly increasing. However, overall it seems that current PoR Authority employees are not typically characterized as being dynamic and creative.

The focus intensity regarding the project in case is also different between the PMV2 and the current PoR Authority. In the PMV2 the focus was clearly fully on the realisation of the MV2 project. The PMV2 was a team fully committed to the project, with an own budget and planning. Regarding the current PoR Authority referring to those involved in PoR development projects, the focus intensity depends strongly on the provided access to sufficient available time and resources to let the project run smoothly and maintain 100% focus on realisation of the project.

Another clear difference is the ratio between externally hired capacity and internal permanent employees. The PMV2 had a high percentage of temporarely hired external people that were fully committed to the MV2 project. In the current PoR Authority however, capacity to work on PoR development projects is mainly gathered inhouse.

The mentality with respect to taking risks is also different. In the PMV2 people dare and are willing to take risks and in case of a drawback quickly repacked themselves and had a strong mentality to think in solutions. Regarding the current PoR Authority, a higher emphasis is control rather than taking risks. In some cases focus on control is becoming quite dominant.

Regarding the Hierarchical organisational culture type, another clear differnce can be seen in dominance of this type in the total typification. Almost no remarks were made in the PMV2

interviews that refer to the Hierarchy organisational culture type, whereas the interviews about the current PoR Authority resulted in a relatively large set of remarks.

Furthermore, the PMV2 and the current PoR Authority are clearly different in size and hierarchy. The PMV2 has a very clear and simple hierarchical structure with a very flat character. Contrastingly, the current PoR Authority is characterized with multiple involved organisational layers regarding decision-making processes. The PoR Authority seems to be a rather unwieldy organisation with a municipal character, however small reorganisations are decreasing this character nowadays.

Both the PMV2 and the current PoR Authority also differ in specifically the intensity of the hierarchical structure. This seemed from the answers given in the organisational culture parts of the interviews, however provide insight about the organisational structure. In the PMV2 the intensity of the hierarchical structure reduced along the project due to the high mutual trust from the MT to project team members. Regarding the current PoR Authority people tend to maintain their control, which results in creation of a controlled and structured environement. It seems that in some cases standardized procedures became more important than the content.

Observation 2 – Difference and similarity in organisational culture

The shapes of the organisational culture plots are clearly different; they seem to mirror eachother. However clear similarities and differences are observed between the PMV2 and current PoR Authority.

The observed similarities are:
- Role of managers and their view on team members
- Proud about organisation
- Drive for success and results-oriented mentality
- Working standards (however different regarding mutual competitiveness)

The observed differences are:
- Emphasis on personal development trust, openess and participation
- Extent of mutual trust
- Unity regarding goals
- 'We'-feeling in relation to project leaders
- Stimulation and extent of knowledge sharing
- Accessibility of project leaders
- Extent of dynamic, creative and flexible character
- Focus intensity
- Extent of externally hired people
- Mentality regarding taking risks
- Complexity of hierarchical structure
- Intensity of hierarchical structure

Interpretation

Clearly more differences are observed for the organisational culture than for the organisational structure. Organisational culture characteristics probably did not have strong long-term effect. One possible explanation is that the PMV2 consisted of relatively many externally recruited employees that were fully committed to the MV2 project, resulting in a new mix of personal characteristics influenced by other organisations' organisational cultures. This mix results in a different organisational culture compared to a set of personalities mainly influenced by the typical PoR organisational culture. The PMV2 organisational culture characteristics might have had no long-term effect, since current project teams for PoR development projects mainly consist of internally recruited capacity, which probably will maintain since the Port Authority currently invests in and develops inhouse expertise. The observed difference in focus intensity can be clearly explained by the fact that the PMV2 was exceptionally established as team with 100% focus on one project with respect to the largeness, complexity and priority of the MV2 and on the financial and environmental impact that it would have. However an observed similarity is the high working standards, which could be explained by the national culture characteristic of high

individualism (referring to Dutch managers typically focus on individuals who favour to be autonomous and expect recognition of their work) that counts for both. Another explaining national culture characteristic is the relatively high score on the Pragmatism dimension.

The high working standards and results-oriented mentality are possibly fixed typical characteristics of the PoR Authority that have flourished since its establishment, such as the observed similar organisational culture characteristic of high level of pride with respect to the organisation. However the pride within the PMV2 refers to the final goal, namely the construction of the MV2, whereas within the PoR Authority it refers to the total PoR and not specifically to a certain project. The difference in complexity of the hierarchical structure can probably be explained by the fact that the PMV2 is specially established for the MV2 project with a well thought organisational structure from scratch and that the PoR Authority is a significantly older and larger organisation with a wider variety of services and departments. The complexity of the hierarchical structure of the PoR Authority has developed throughout the years towards a relatively stable result of various reorganisations being hard to easily change. Therefore the long-term effect of the PMV2 organisational culture characteristics on the Port Authority is low, which will probably maintain regarding their relatively strong hierarchical structure and lower extent of dynamic, creative and flexible character. Another observed similar characteristic is the role of managers and their view on team members, which is surprising regarding the difference in organisational culture characteristics between the PMV2 and PoR Authortiy (referring to the highly accessible project leaders, high mutual trust and low hierarchical structure intensity of the PMV2 compared to the PoR Authority). That it is still observed as similar could be explained by the difference in how each interviewee experiences these aspects from their mutually varying positions, but also by the national culture characteristics of a relatively low scores on Power Distance (referring to equal rights, hierarchy for convenience only and managers facilitating and counting on the experience of their team) and Masculinity (referring to supportive managers and decisions being made by high level of involvement). The organisational culture characteristics observed as different probably have to do with national culture characteristics that have rooted over decades more in the PoR Authority than in the much shorter existing PMV2.

4.1.3 Long-term preservation of MV2 related changes in working approach

In this Section the changes in working approach described in Section '3.4.1 PoR Authority' are analysed. In this analysis also the details in the timeline overviews in Appendix 'F.1 Maasvlakte 2 project' are taken into account. The focus in the analysis is on observing which changes in working approach are related to the MV2 project and to what extent these are preserved on the long-term in the PoR Authority to improve effectiveness with respect to port development projects. The observations are presented in chronological order according to the timeline. Each observation is accompanied with a label that indicates whether it is preserved (green, →), it is not preserved (grey, →) or unknown whether it is preserved (blue, →) within the PoR Authority regarding other PoR development projects.

Analysis

→ The first new approach is the development of the PKB. This exceptional framework enabled unusual negotiation possibilities regarding licences needed to achieve approval for the MV2 zoning plans. It is unclear whether such an exceptional framework is applied more often within the PoR Authority.

→ Another exceptional working approach is the establishment of the PMV2 as a separate independent department with an unusual short link with the Board of Directors of the PoR Authority and new organisational structures and strategies well thought and designed in advance specifically for this project. This working approach was exceptionally needed regarding the

unusual complexity level and size of the MV2 project and therefore is not applied within the PoR Authority for other PoR development projects.

→ The PMV2 applies the PRINCE2 project management method, which was never before applied in the PoR Authority. This method is nowadays rolled out in the PoR Authority.

→ Especially for the realisation of the MV2, a new contract is designed for agreement between the PMV2 and involved utility companies. No insights are gained along this research about whether this is done more often since then.

→ Also exceptional responsibilities were taken up by the PMV2 that would normally concern the Rijkswaterstaat or Rotterdam Government. It seems that such responsibilities are nowadays in some cases exceptionally taken by the PoR Authority. An example is the development of the MER for the total port area.

→ The new approach of issue management that is developed within the PMV2 does not seem to be rolled out. This approachs refers to the issue procedures and the Review Team for multidisciplinary assessment of an issue based on the PRINCE2 principles.

→ The PMV2 also worked with an integrated form of scope management and costplanning. This approach was newly developed by the PMV2. It seems that nowadays discussions are taking place whether this approach should be rolled out towards other departments and projects of the PoR Authority.

→ Another approach applied in the PMV2 and new within the PoR Authority concerns project planners being highly involved along the entire project and function as a helping tool to foresee and solve potential problems. It is unknown whether the projectplanners in other port development projects nowadays also are involved like this.

→ Regarding project planning, the PMV2 worked with the new system that distinguishes Project Milestones and MT milestones to selectively decentralize mandate towards project managers. It is unknown whether this milestone structure is applied in other PoR development projects ever since in the PoR Authority.

→ The PMV2 works with the CMO1 contract form including quicker payment deadlines, which is also exceptionally developed for the MV2 due to the pressure behind the project progress. Such a contract form is also new for the PoR Authority and is not applied to other projects.

→ Personality tests are done on management level of the PMV2 to improve effectiveness of internal collaboration and understanding. This was firstly done within the PMV2 and later also performed on management level of the total PoR Authority.

→ The PMV2 starts to work with SOM (Strategic Environmental Management), which is newly developed along the MV2 project. SOM is nowadays applied to all port development projects within the PoR Authority.

→ An approach that was newly developed by the PMV2 and is not rolled out throughout the PoR Authority in other port development projects, is the exceptional collectively signed agreement by the projectorganisation and external project managers regarding the assignment of the project assets after finishing the construction phase.

→ The PMV2 works with a task structure in which one person is fully responsible for one type of task. This task structure is nowadays also rolled out throughout other port development projects of the PoR Authority.

→ A clear shift can be observed in the policy focus of the PoR Authority. Nowadays sustainable development is taken more seriously into account in the assessment framework along PoR development projects. The shift is possibly accelerated by the MV2 project and the high environmental focus needed in order to develop the MER and meet all environmental related interests and policies.

→ A couple of departments in the PoR Authority have recently merged to integrate complete project processes into one department. Before, different project teams of different departments were responsible for different phases. These changes can possibly be initiated after the effectiveness of the PMV2 in which all project phases were integrated into one department.

→ Communication towards the project environment is nowadays more and more integrated in the predefined project strategies within the PoR Authority. This can possibly have been stimulated by the PMV2 in which the communication department had an exceptionally large role from the very start of the MV2 project. Internal and external communication was highly integrated in the predefined strategy.

Observation 3 – Long-term preservation of MV2 related changes in working approach

An observation is that a significant set of changes in working approach that relate to the PMV2 has not been rolled out in the PoR Authority. However the major part was specifically established for the MV2 project regarding its size, level of complexity and financial and environmental impact. Examples are the CMO1 contract and the actual establishment of the PMV2 as an autonomously operating projectorganisation. Another observation is that there is also a significant set of new working approaches that are rolled out after the positive experiences of the PMV2. Examples are SOM for strategic environmental management and PRINCE2 as project management method. From the remaining set of changes that relate to the MV2 it is not clear whether they are preserved and (planning to be) rolled out. An example is the milestone system applied in the PMV2 that distinguishes milestones for the project manager from MT milestones. The remaining identified changes in working approach do not specifically relate to the MV2 project and are therefore not taken into account in the analysis.

Interpretation

These observations can have various explanations. Firstly, the significant difference observed in organisational structure and –culture between the PMV2 and the current PoR Authority regarding those involved in PoR development projects, probably make it difficult to apply certain approaches of the PMV2 into existing procedures of the PoR Authority. However some new working approaches, such as the exceptional CMO1 contract form, is logically not rolled-out since it was specifically established for the MV2 project to ensure the exceptional priority of progress of the project and are rather seen as 'best practice' in case of future large-scale projects with comparable characteristics as the MV2 project. The changes in organisational structure like SOM and PRINCE2 that are rolled out are probably more natural to the PoR Authority since it supports a number of observed characteristics. Examplary is the aim for improving integration among different involved departments in a project for which SOM is used as connecting mean for internal and external mutual adjustment. Another example is the relatively formalized behaviour, the strong drive for success, high working standards and results-oriented mentality for which PRINCE2 probably is a facilitating and easily accepted method to apply since it monitors results and provides indication of progress. Effective new working approaches of the PMV2 that are more widely applicable than for example the CMO1 but are still not rolled out probably do not fit certain dominant organisational structure and –culture characteristics of the Port Authority. An example is the PMV2 milestone approach that asked for high level of mutual trust and openness between the MT and project managers, whereas in the Port Authority shows these characteristics rather in an opposite way. However the PoR Authority has organisational structure characteristics, such as that project managers have the possibility to submit mandate proposals and the extent of centralized decision-making power, that are observed as similar to the PMV2 and would seem favourable and promising for implementation of such a mandate distribution system.

4.1.4 Coherence organisational structure and -culture typifications

In this Section the coherence of the organisational structure and –culture typification is analysed for both the PMV2 and the current PoR Authority. As explained before, analysing the coherence could be explaining for the PMV2 and current PoR Authority organisational effectiveness. The characteristics are compared by which Mintzberg (2006) and Cameron & Quinn (1983) describe the types of organisational structure and –culture that they distinguished. The difference in

coherence between the PMV2 and the PoR Authority and what this could mean regarding the long-term effectiveness of the PoR Authority will be handled in the interpretation part.

Analysis PMV2

Analyzing the coherence between the PMV2 organisational structure and –culture is done first by looking to what extent the three organisational structure types (Simple Structure, Machine Bureaucracy and Adhocracy) match the most dominant organisational culture types in the plot (Clan and Adhocracy). Secondly can be analysed to what extent the same three organisational structure types contradict to the organisational culture types that scored lowest (Hierarchy and Market).

Machine Bureaucracy, Simple Structure, Adhocracy & Clan, Adhocracy
- The Adhocracy type of organisational structure and that of organisational culture indeed seem to fit well. In the Adhocracy organisational structure different disciplines are brought together in smooth functioning project teams with the prime goal to innovate and rapidly adaptate to changing environments, which coheres with a typically Adhocracy culture management that has the role to foster entrepreneurship, creativity and activity 'on the cutting edge'.
- The Adhocracy organisational structure and Clan also seems to fit well. In the Adhocracy organisational structure binding means are important for mutual adjustment, which seems to cohere with the typical Clan management who stimulate teamwork and take the role to empower employees and facilitate their participation, commitment and loyalty.
- Machine Bureaucracy and the Clan and Adhocracy organisational culture types are surprisingly contradicting. This refers to the Machine Bureaucracy characteristic of having an overload of rules, representing a controlled organisation. The Adhocracy and Clan culture are based on flexibility, creativity, dynamic. In a Clan culture, teamwork, employee involvement programs and corporate commitment are predominant instead of rules, standardized procedures and competitiveness.
- Simple Structure and Clan indeed seem to fit well. In a Simple Structure there is loose division of labor and employees perform overlapping tasks and there is limited differentiation between departments. This coheres with the Clan culture in which there is a strong 'we'-feeling and the mentality of teamwork, cohesion, and having shared goals and values. It also coheres with the typical Clan culture long-term emphasis on the benefits of high cohesion and morality.
- Simple Structure also seems to fit well to the Adhocracy and Clan organisational culture types, regarding the limited formalized behaviour of the Simple Structure. This limited formalization could be a logical combination with the family-type organisation characterized by its high flexibility and low amount of rules.
- Simple Structure and Clan also seem to fit well regarding another aspect. The Simple Structure has a small hierarchy of managers and hardly any formalized behaviour, which coheres with the Clan culture in which managers seem to have an equal-level supporting role. The managers empower employees and facilitate their participation instead of having a strong hierarchical position.

Simple Structure, Machine Bureaucracy, Adhocracy & Hierarchy, Market
- Simple Structure and Hierarchy organisational culture are indeed contradict. Typically for Simple Structure is a loose division of labor, overlapping tasks and limited differentiation between departments, however the Hierarchical organisational culture fits an organisation inspired on separate ownership, impersonality and predictable outcomes.
- Adhocracy organisational structure and Hierarchy organisational culture also indeed contradict. The prime goal of Adhocracy organisational structure type is typically

innovation and rapid adaptation to changing environment, whereas Hierarchy organisational culture refers to stability, predictability and efficiency.

- Adhocracy organisational structure and Hierarchy organisational culture also indeed contradict. Typically for Adhocracy is low formalization and an organic organisational structure, whereas the Hierarchy culture fits an organisation that is inspired on a bureaucracy with rules, specialization, hierarchy.
- Machine Bureaucracy however shows similarity with the Hierarchy and Market types of organisational culture. Coherent characteristics are in example the strong formalized procedures and an overload of rules, regulations and formalized communication throughout the entire organisation. These corresponding characteristics could refer to the relatively low, however existing scores on the Hierarchy and Market axes.
- In a Professional Bureaucracy the power is emphasized on skills and professionalism instead of position in the market. Also, it is characterized by that the organisations specialists are highly collaborative with clients. Both characteristics strongly correspond to the PMV2, however this type did not came out of the interview results.
- Furthermore, it is remarkable that the Simple Structure and the Machine Bureaucracy are together within one organisational structure configuration. They strongly contradict in their extent of formalization; the Simple Structure has hardly any formalized behaviour and hardly makes use of planning, training and binding means, whereas the Machine Bureaucracy is characterized as having an overload of rules, regulations and formalized behaviour.

Analysis current PoR Authority

Analyzing the coherence between the current PoR Authority organisational structure and – culture is done in the same way as for the PMV2. In this case it means firstly by looking to what extent the two organisational structure types match the most dominant organisational culture types in the plot (Hierarchy and Market). Secondly can be analysed to what extent the same two organisational structure types contradict the organisational culture types that scores lowest (Clan and Adhocracy).

Divisionalized Form, Adhocracy & Hierarchy, Market
- The Divisionalized Form and the Hierarchy organisational culture seem to cohere, however on divisional level. The Divisionalized Form has a top down organized power distribution and is a centralized decision-making power on divisional level. The Hierarchy organisational culture refers to a bureaucratic organisation with clear lines of decision-making authority.
- Adhocracy organisational structure and Market organisational culture also seems to cohere. The prime goal of a typical Adhocracy is innovation and rapid adaptation to changing environments, which matches with the Market organisational culture since it corresponds with organisations that face new competitive challenges, that are oriented towards the external environment and put emphasis on external positioning and competitiveness.
- Adhocracy organisational structure and Hierarchy organisational culture show a surprising contradiction. Adhocracy refers to ad-hoc project teams, rapid adaptation to changing environment, which does not cohere with Hierarchy that refers to an organisation with a relatively stable environment and stability, predictability and efficiency as typical long-term concerns.
- Adhocracy organisational structure and Hierarchy organisational culture show also a surprising contradiction. In a typical Adhocracy the decision-making power is distributed over managers and non-managers on all levels of hierarchy, matching the nature of the decisions to be taken. This does not cohere with the Hierarchy since it corresponds to a

bureaucratic organisational form with clear lines of decision-making authority and a relatively stable environment and uniform products and services.

Divisionalized Form, Adhocracy & Clan, Adhocracy

- The Divisionalized Form organisational stucture and Clan organisational culture indeed seem to contradict. Little coordination exists among the separate divisions of the Divisionalized Form. Clan is characterized with a strong 'we'-feeling, teamwork, employee involvement and shared values and goals.

- Adhocracy organisational structure and the Clan show surprising coherence. The Adhocracy brings together experts of different disciplines in smooth functioning ad-hoc project teams and has a high level of task specialization and performing non-routine tasks. This would fit with Clan, since its leaders are typical mentors that empower employees and facilitate their participation and long-term emphasis is on benefits of individual development with high cohesion and morality.

- A typical Adhocracy organisational structure and –culture logically also show clear coherence. The Adhocracy organisational structure represents an organic structured organisation with employees who work in ad-hoc project teams with and focuses on innovation and rapid adaptation to changing environments. Adhocracy organisational culture is found in organisations that assume innovativeness is a key to success and management fosters entrepreneurship, creativity and activity 'on the cutting edge'. Nothwithstading the clear coherence, this combination does not seem to be representative for the current PoR Authority.

> **Observation 4 – Coherence organisational structure and -culture typifications**
>
> The organisational structure and –culture of the PMV2 seem to cohere quite well. Observations mainly included matches between the organisational structure types and dominant organisational culture types that belong to the PMV2, and logical contradictions between these organisational structure types and the lowest score organisational culture types.
> Regarding the current PoR Authority, the organisational structure and –culture seems to cohere to a lower extent compared to the PMV2. Only few matching aspects can be observed between the organisational structure types that belong to the PoR Authority configuration and its most dominant organisational culture types. Surprisingly many matches are observed between those organisational structure types and the less dominant organisational culture types.

Interpretation

The observed extent of coherence could have different explanations. The strong coherence regarding the PMV2 could be due to the fact that it was established from scratch with before the kick-off well thought organisational structures and required mentality. A related explanation is that the team was composed with mostly externally hired employees who did not have a predeveloped organisational culture yet, which means a 'PMV2 character' could flourish within the boundaries of the designed organisational structure and required mentality. This is not the case in other projects of the Port Authority, in which project teams are mainly composed of internally recruited employees who already carry a certain extent of Port Authority characteristics. This predetermined basis delimits the extent of development of organisational culture towards one that ultimately fits the organisational structure chosen for the project. Regarding long-term effectiveness of the Port Authority, the high investments currently done in development of internal expertise to operate in project teams could mean that the effectiveness experienced by the PMV2 due to their high coherence in organisational characteristics would have an insignificant long-term effect on the Port Authority. Another point of view regarding the observed difference in coherence could relate to the usability of the applied research methodological framework, since the interviewees represent a variety in perception and definition of organisational structure and –culture characteristics. This could have resulted in different typifications whereas in practice it may be different. The variety could also have

resulting in differently formulated characteristics that actually correspond in practice regarding the possibility that certain interviewees mainly made remarks about organisational structure and others about -culture. This relates to the possibility that Mintzberg and Cameron & Quinn might have defined certain characteristics in a different way that would be similar in practice. The definitions of the five organisational structure types and the four organisational culture types are not calibrated when developing the research methodological framework.

4.1.5 Representativeness of organisational structure and –culture typifications

Concerning the organisational structure of the PMV2, the developed typification seems to be semi representative after performing the iterative feedback step. The majority of respondents expected a mix between the Professional Bureaucracy and the Adhocracy types. This means on first sight that the developed typification in this research does not seem to correspond well with their expectations. However, numerous of their remarks nuance the Adhocracy and Professional Bureaucracy combination in a way that can be associated with Machine Bureaucracy and Simple Structure characteristics. Concerning the organisational culture, the average plot seems to correspond quite well with the appointed scores of the feedback group to the four different types and their remarks about the extent of their recognition. As the majority clearly confirms the plot, the remaining part makes a unanimous statement that the plot might be more balanced out towards Adhocracy in reality and some also expected a higher score on the Hierarchy axis. Along the interviews the employees might have tend to base their answers on couple of experiences which were not yet of nature within the organisation, which then resulted in an average plot that does not fully represent the organisational culture in practice.

Concerning the present PoR Authority, the organisational structure typification seems to be quite representative, since remarks of recognition were made by the respondents of the feedback group. Recognition of the cornerstone types could come from the transition of Divisionalized Form towards Adhocracy that is currently experienced within the Port Authority, meaning that currently a mix of both exists. Some respondents found that some characteristics do not strongly apply, such as level of innovativeness and quick adaptation.

The feedback group limitedly confirmed the average organisational culture plot, meaning it probably is semi representative for reality. This could be due to the current shift in control within the Port Authority being influencing to a different extent or due to variety in organisational culture characteristics per divisions and departments.

4.2 Analysis & Interpretation (Case: PoA Authority)

This Section presents the different analysis steps regarding the PoA case study results that were presented in previous Chapter. Just as for the PoR case, the observations presented in the boxes are subsequently followed by the interpretation according to the mentioned determinants.

4.2.1 Change in organisational structure typification

In this Section the difference and similarity is analysed between the organisational structure typification of the previous PoA Authority in times of DGD and of the current PoA Authority regarding those involved in PoA development projects. Interpretation of the observations leads to understanding about what the long-term effect of the DGD project is on the effectiveness of the PoA Authority with specific regard to the organisational structure.

Analysis

From the five organisational structure types that Mintzberg (1983) distinguishes, the field of the previous PoA Authority (presented in Section '3.2.2 Previous PoA Authority', Figure 10) seems to

consist of a combination between three of them: Simple Structure, Professional Bureaucracy and Adhocracy. That of the current PoA Authority (presented in Section '3.3.2 Present PoA Authority', Figure 16) seems to consist of the combination: Simple Structure, Machine Bureaucracy and Adhocracy.

Both the previous and current PoA Authority organisational structure type configurations contain a majority of characteristics that match with the Simple Structure and Adhocracy. The third cornerstone organisational structure type is different. In times of the DGD realisation, the PoA Authority had Professional Bureaucracy characteristics, which seem to have transformed towards characteristics that match a Machine Bureaucracy.

Regarding Simple Structure characteristics of the previous and current PoA Authority remained the same. Similar for the DGD project and for current PoA development projects, typical characteristics of the PoA Authority are the organic structure of the organisation, that the organisation is complex in practice and that there is hardly any formalized behaviour, planning, training and binding means.

In times of the DGD project realisation, there were almost no standardized work processes and each case had a different approach. Improving effectiveness via standardization hardly happened, because of time limitations. Nowadays, standardization of work processes seems to be incrementally implemented. Standardization is slowly increasing to improve project control; examples are negotiation procedures, project team structures and time management.

This relates to a characteristic that remained the same over the years; Along the DGD project and still nowadays, the organic structure of the PoA Authority is typical. Regarding the times of DGD project it refers specifically to the exceptional selective decentralization of decision-making power due to urgency of the project, the limited standardization of outputs or individual focused job descriptions and also to the organic and uncontrollable way of collaboration between departments and actors involved in the project. Nowadays, it refers to the fact that project procedures are not uniformly standardized since every project seems to have an own organisational structure and an own steering committee and workgroups. However, individually and output focused job descriptions are more and more applied. So project approaches have been standardized, however only to a certain extent causing the PoA Authority to be still characterized as having an organic structure with respect to port development projects.

Another similarity between the PoA Authority in times of DGD project and now, is the need of a connecting mean to stimulate mutual adjustment in the organisation. In times of DGD project mutual adjustment among departments was loose, however did improve by the establishment of ad-hoc teams. Nowadays, its effectiveness is slowly increasing among departments via application of more structured approaches for large-scale PoA development projects and the establishment of project teams. So both during the DGD project and still during current PoA development projects, mutual adjustment among different disciplines involved in the project is not developed as a natural coordination mechanism in the PoA Authority.

A typical Adhocracy characteristic that matches both the current and the previous PoA Authority is that decision-making power is normally vertically and horizontally centralized, however exceptionally selectively decentralized. As already mentioned about the DGD, decision-making power was exceptionally selectively decentralized towards the ad-hoc teams due to the urge of the project. The ad-hoc teams were trusted by the top and received the needed mandate to do the negotiations about solutions regarding the issues along the DGD project. Nowadays, the PoA Authority normally has a relatively centralized decision-making power distribution, however strongly depending on the case selectively decentralized towards the middle management.

Another similarity is the complex decision-making power distribution regarding port development on the Left bank. The DGD is realised on the Left bank, on which also the remaining space (Seaftinghe Zone) for current port development is located. The Left bank concerns multiple actors in the position of being involved in the decision-making along PoA development projects;

In contrast with the Right bank, the PoA Authority has no decision-making power monopoly on the Left bank.

A remarkable similarity is also the role of the support staff and the technostructure. In times of the DGD project, both had a key role in determining the development direction of the DGD and in the collaboration with external parties. Then the emphasis was on the high number of specialists and professionals, that represented the technostructure, who operated exceptionally autonomous according to the exceptionally decentralized decision-making power to let the project go as quick as possible. Nowadays, both seem to have a key role in the development of new strategies to be rolled out in the organisation. So in both times, both the support staff and the technostructure have a key role on strategic level along port development projects.

A final similarity that regards specifically port development projects, is that experts of different disciplines are brought together in smooth functioning ad-hoc teams. During the DGD project and also nowadays during port development projects, project teams are established in which different departments are represented.

A similarity that regards the overall PoA Authority is that the organisation is a collection of various specialized departments. The current operating core of the PoA Authority, similar to the operating core in times of the DGD project, consists of separately operating specialized divisions with a strong delinitation of responsibilities and having own focus and interests.

Observation 1 - Change in organisational structure

The organisational structure configuration remained largely similar since the DGD project. The changed characteristics mainly refer to a change from Professional Bureaucracy towards Machine Bureaucracy.

The observed similarities are:
- Organic structure (however referring to different aspects) due to limited standardization
- Connecting means important to improve mutual adjustment effectiveness
- Complex decision-making power distribution (on Left bank)
- Vertically and horizontally centralized decision-making power, however depending on the case selectively decentralized to middle management level (perforce along DGD project)
- Support staff and technostructure have key role on strategic level regarding port development
- Emphasis on engineers along port development projects (exceptionally high independence along DGD project)
- Strong horizontally and vertically centralized decision-making power regarding overall PoA Authority
- Experts are brought together in ad-hoc teams
- Being a hybrid organisation consisting of departments that operate as separate kingdoms

The observed differences are:
- Extent of standardization of work processes. Nowadays slowly increasing, but absent along DGD project.
- Degree to which individual and output focused job descriptions are applied

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Interpretation

The organisational structure configuration seem to have remained the same over the years, which could be explained by that no fully committed project organisation was established to realise the DGD project but instead effectiveness was improved by incremental changes. This incremental way specifically is probably also explaining for the relatively large set of similarities, since organisational structure characteristics were provided to maintain themselves or slowly evolve towards a new equilibrium state that would still correspond to the overall PoA Authority organisational structure typification. This interpretation would mainly concern stable organisational characteristics that are not very sensitive for change. An example is the typically organic structure due to limited standardization from which the stability is probably maintained due to organisational culture that over the years remained similar as well (such as team specific and case specific organisational cultures and department inconsistency) that might have even counteracted attempts for change. Another explanation for the maintained organic structure is the fact that the Port Authority has always been a hybrid organisation with separately operating departments. Preservation of this structure could be explained by organisational culture

characteristics of the results-oriented mentality making all divisions focus on their own jobs, the competitive character and team specific organisational cultures which could maintain division of targets, interests, visions and mentalities. Another observed similarity of mainly centralized decision-making power distribution with exceptions to certain cases could be explained by the other observed similarity of support staff and technostructure having a key role in strategic decisions, the relatively high emphasis on engineers along projects and that experts are brought together in project teams. That these characteristics remained similar could be due to the stable organisational culture characteristics (the bureaucratic and politicized culture, typical top-down hierarchy and relatively high control mentality). Additionally, the high score of typical Flemish people on the Power Distance national culture dimension could also explain the preserved way of vertical and horizontal centralized decision-making power. The observed difference of increasing individual and output focused job descriptions could be explained by the results-oriented mentality of the current PoA Authority. This mentality however also lived in times of the DGD project, but was purely temporarily created by the high pressure behind the realisation of the project. The observed similarity of connecting means being important for mutual adjustment in both previous and present PoA Authority could be explained by the high score on the Individualism national culture dimension (Flemish people typically prefer to operate in an individual way, however on the other hand do need hierarchy).

Overall, the observed differences could also be explained by other internal and external factors that have been stimulators for internal change. Incremental longer-term changes in organisational structure could also belong to the process of privatisation.

An overall explanation for the low amount of changes notwithstanding the effects of the DGD project could be that typical Flemish people score high on the Uncertainty Avoidance dimension of national culture, which might have made decision makers feel uncomfortable to take risks and suddenly implement changes to improve effectiveness. The high score however could also have been the cause behind increasing amount of standardization of work processes within the Port Authority, since it refers to Flemish people typically preferring to operate with planning, rules and security. This might have been suppressed along the DGD project due to the fact that priority was on realising the dock as quick as possible.

4.2.2 Change in organisational culture typification

In this Section the difference and similarity is analyzed between the organisational culture of the previous and current PoA Authority. To make a clear comparison Figure 20 shows the average plot for both, that were presented before in Chapter '3. Case results – Port of Rotterdam & Port of Antwerp', together in one graph. The analysis is based on these plots and on the overviews of the clustered and categorized remarks, which can be found in Appendix 'F. Overviews of changes in working approach'.

The plot of the previous PoA Authority is constructed from the following scores of the four organisational culture types: Clan: 30, Adhocracy: 17, Hierarchy: 26 and Market: 27. The plot of the current PoA Authority is constructed from those: Clan: 25, Adhocracy: 17, Hierarchy: 27 and Market: 32.

These final average scores are presented in the overviewing sheet of results from the quantitative organisational culture part of the performed interviews, which can be found in Appendix 'E.6 Interview results •Port of Antwerp Authority'.

**Organisational culture
Previous and Present PoA Authority**
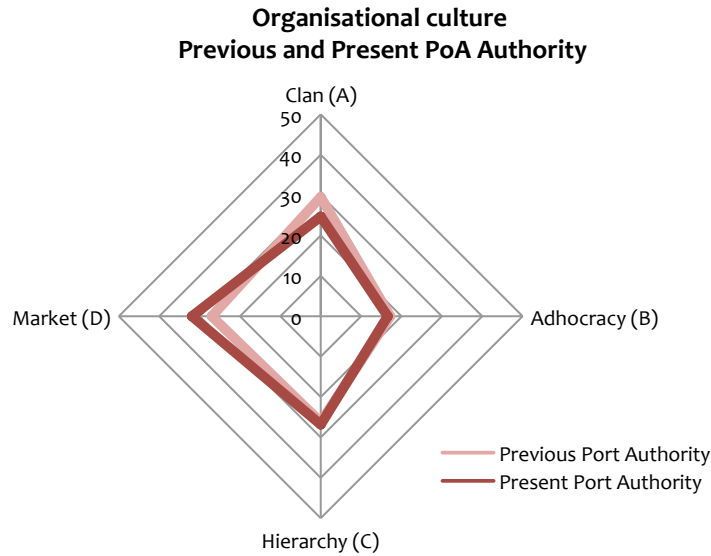
Figure 20 - Final average organisational culture plots (developed by researcher) of the PoA Authority regarding those involved in the DGD project (previous) and those currently involved in port development projects (present)

Analysis

A clear observation when analyzing the overlapping plot is that the shapes of the previous PoA Authority in times of DGD project and the current PoA Authority are very comparable. The scores for Adhocracy and Hierarchy are as well as the same. Regarding Clan and Market, the scores show a little shift. Compared to the current PoA Authority, in times of the DGD project the organisational culture regarding those involved in the project included slightly more characteristics that refer to the Clan type and slightly less that refer to the Market type.

Both nowadays and in times of DGD project it seems that an organisation-wide organisational culture does not exist. Relating to this, the previous PoA Authority also did not seem to be like a large family with a family bond. A related remark about the current PoA Authority is that the organisation seems to have a strong island culture with different kingdoms and strongly delineated responsibilities, especially in the operating core. Also different departments do not feel connected, there is no 'we'-feeling and loyalty, mutual trust and openness is not characteristic of nature. This was also mentioned regarding the PoA Authority in times of the DGD project; people seemed to work in islands in their departments, showing also a low level of mutual commitment, internal flow and communication and responsibilities of departments were very delimited.

Another similarity is that the organisation is hybrid, causing inconsistency among departments. This relates to the just mentioned absence of organisation-wide organisational culture. It seems that in both times a large difference exists how different departments interpret and practice the corporate strategy. Departments do not seem to have shared goals, drivers and ambitions resulting in different cultures and no strong organisation-wide feeling of working together on a corporate mission.

Another similarity is that organisational culture differs and depends strongly on the certain case. Regarding the previous PoA Authority it seems that organisational culture mainly differed per project and per department, and not over time. A remark about the current PoA Authority is that mutual trust and loyalty strongly depends on the department and that there is also a large difference in statutory employees and contract basis employees.

A clearly similar Adhocracy characteristic is that specifically in the operating core, employees are typically dynamic, entrepreneurial and willing to stick out their necks and take risks. This remark was made both for the current and previous PoA Authority.

Another similarity is that the organisational culture strongly depends on the responsible team. Those involved in the DGD project seemed to take risks; nobody knew how the project would proceed. Nowadays, it seems that the organisational culture strongly differs per project and depends strongly on the combination and type of responsible people in the project team and on the type of team manager.

Furthermore, a clear similarity is the bureaucratic and politicized character. The interviewee remarks tell that the previous PoA Authority was a real bureaucracy. Regarding the current PoA Authority it seems that it is a relatively bureaucratic organisation with a quite politicized Board of Directors. The management style seems to be real bureaucracy with high demands. This relates to the remark that in the current PoA Authority the focus on policies is increasing.

Another similar typicality regarding Hierarchy is the hierarchical structure within the organisation. In times of the DGD project the top of the PoA Authority maintained a strong results-oriented top-down direction. Nowadays, they focus more on control and structure. An increasing change to professionalize is taking place. This can be seen by the procedures and formal decision-making power distributions. Decision-making power is centralized, the management seems to not easily delegate responsibilities to lower levels in the organisation.

Another observed similarity is that both nowadays and in times of the DGD project, the PoA Authority can be described as a controlled organisation with clear hierarchical lines. This relates to the remark about the previous PoA authority that formally seen the PoA Authority was a structured organisation, however still quite messy because everybody seemed to know that there is still quite some freedom regarding the structure. Specifically with regard to the DGD project, those involved were an unstructured totality including emergency elements that had to be pro-active and had to work out-of-the-box and from scratch. Nowadays working on port development projects seems to happen in a more structured way than before and focus on structure and control is increasing. Taking risks has reduced; because of standardization people are more committed to their goals. This also relates to the remarks that the management is not typically entrepreneurial, innovative and comfortable with taking risks. No decisions are taken when not first being fully discussed. However still, the current PoA Authority can be described as a very organic organisation.

Another remarkable similarity is that the top of the organisation maintains a strong results-oriented top-down direction (however not in an aggressive way). In times of the DGD project, the people involved were very competitive and results-oriented. Nowadays this is expressed via the results-oriented job appointments that are applied on department level and on employee level. People seem to be more results-oriented than before. The binding factor nowadays is described as achievement of results and formal rules.

A characteristic that is partly different and partly similar is the involvement of the management in the project in case. In times of the DGD the management had partly the role as mentor, facilitator and stimulator for those involved in the DGD project. However, regarding the content, those people were provided exceptional freedom from their managers to perform their jobs. This resulted in mainly a facilitating management. Related to this is a contrasting remark on the current PoA authority; Trust from management towards team members is not always very strong. In the current PoA Authority the management does still show partly the role as mentor, facilitator and stimulator, however is also more involved in the project on content level.

A difference, concerning the Clan organisational culture, is the extent of focus on employee behaviour and attitude within the organisation. In the current PoA Authority, five behaviour appointments are distributed and promoted in the organisation (Collaboration, trust, internal innovativeness, respect and customer focused), which are spread, well known and apply to everyone. Employees also seem to be evaluated on these core values. These behaviour appointments were not defined as such in times of the DGD project.

Another difference between the previous and current PoA Authority is the extent of strategic focus on new challenges. In times of the DGD, the strategic focus hardly included to look for new challenges with respect to the port development project. Port development in a sustainable way was not specifically promoted by the Port Development department. The focus was rather on finishing the DGD project as quick as possible. Nowadays, the focus seems to be more on looking for new challenges with regard to port development. Within the Policy Development department more focus is on development of new innovative policies. Also overall support for innovative ideas seems to increase.

This relates to another clear difference, namely is the extent of pro-active mentality. In times of the DGD project, the different departments involved in the project collaborated not in a pro-active way. However the specific team of people working on the project were very driven by the clear goal of finishing construction of the dock and making sure that no conflicts would emerge. Nowadays, it seems that the PoA Authority is shifting from a passive landlord port towards an active landlord port. It nowadays has a more pro-active mentality and takes a more active role in seeking and trigger for potential synergies. Project teams are also more results-oriented of nature. For example, these project teams also do lobby work to external parties.

Relating to the pro-active mentality, both in previous and present PoA Authority a certain extent of competitive character can be identified. However in both the competitive character has a different incentive.

The way in which multiple disciplines work together along projects is different between how this is organized along the DGD project and today. The people working on the DGD project did not seem to work together in a structured way; collaboration between departments happened in a very organic way. Nowadays structured collaboration is more stimulated via ad-hoc multidisciplinary project teams, however the PoA Authority still seems to be characterized as a dynamic organisation.

In times of the DGD project, those involved in the project were very competitive with the aim of finishing the DGD construction as quick as possible. Nowadays, the competitive mentality refers to the shifting mentality from a governmental organisation towards one that is more competitive towards the external world. The new generation seems to be more striving. Nowadays, people seem to be willing to be front-runner and being quicker than competitors.

Regarding the internal and external focus of the employees, a clear overall shift can be identified. People are becoming more and more internally and externally oriented. This also relates to the increasing pro-active mentality and competitive character. The PoA Authority seems to be more open and externally oriented, which has influenced the organisational culture in the recent years.

Furthermore, nowadays the organisations' performance is more and more related to qualitative aspects (such as added value) than quantitative ones. This refers also to the remark about that the previous PoA Authority mainly focused on the role of generating employment, which also fits the Market organisational culture type. Nowadays the PoA Authority focuses more on management and development of the whole port area and adding value to the total port community. Nowadays, making profit is not the main goal.

A related important difference is how performance is defined within the organisation. In times of DGD project the organisations performance was defined in a quantitative way, namely in tonnes.

Observation 2 – Change in organisational culture

The organisational culture plots of the previous PoA Authority regarding those involved in the DGD project and of the current PoA Authority regarding those involved in current PoA development projects are almost similar.

The observed similarities are:
- Management involvement and trust
- Organisation-wide organisational culture
- Hybrid organisation; Department inconsistency
- Case dependent organisational culture

- Characteristics of operating core employees
- Team specific organisational culture
- Bureaucratic and politicized character
- Top-down hierarchical culture
- Control in organisation and low amount of taking risks
- Results-oriented mentality (incentive is different)
- Competitive character

The observed differences are:
- Management involvement and trust
- Definition of organisations performance
- Behaviour and attitude related appointments
- Strategic focus on new challenges
- Structured multidisciplinary collaboration
- Pro-active mentality
- Competitive character
- Internal and external focus

Interpretation

The observed similarity between previous and current PoA Authority of department inconsistency and no organisation-wide organisational culture, is probably mainly due to the observed similar organisational structure characteristic of the PoA Authority being organic and hybrid. Also it can be explained by the other observed similarity of organisational culture being case and project specific. The similarity in taking low amount of risk could be explained by the very high score on the national culture dimension of Uncertainty Avoidance (risks however were taken along the DGD project, again because of the high pressure behind the project). The preserved typical bureaucratic and politicized character of the Port Authority might be due to the national culture characeristic of typically accepting hierarchical orders within an organisation in which everybody has a certain position without claiming a clear justification. Typical bureaucratic and politicized organisational culture characteristics could therefore be maintained even though they do not seem to facilitate innovativeness, creativity or effectiveness of the organisation with respect to port development. The observed difference between previous and present PoA Authority of the way in which performance is defined and communicated could be explained by the increasing pro-active mentality and more extenal focus that emerges nowadays throughout the organisation and results in focus on creating added value instead on only turnover in tonnes. The observed increasing strategic focus on new challenges obviously also seems to relate to the more pro-active mentality, but also to the increased competitive character compared to times of the DGD project. This significant change is probably facilitated by the increasing amount of standardized processes and job appointments via which the Port Authority might aim to become more ready for new challenges. This increasing amount of standardization of work processes and job appointments relate to observed changed organisational culture characteristics; the standardization of work processes probably directly results in more structured collaboration approaches and the increasing focus and personal evaluations on mutual behaviour and attitude directly relate to the standardization of job descriptions. Furthermore, as also mentioned in the PoR case, certain observed different organisational culture characteristics could also be explained by the profiles of the employees who were interviewed. An example is that the amount of trust of managers towards team members appeared to be stronger in times of DGD than nowadays in other projects.

4.2.3 Long-term preservation of DGD related changes in working approach

In this Section the changes in working approach that are described in Section '3.4.2 PoA Authority' are analysed. Also the details in the overviewing timelines in Appendix 'F.2 Deurganckdok project' are taken into account. The focus along the analysis is on observing which changes in working approach are related to the DGD project and to what extent these are

preserved on the long-term in the PoA Authority to improve effectiveness with respect to port development projects. The observations contribute to insights about the long-term effect of the DGD on effectiveness with respect to PoA development projects. Just as for the PoR case, the observations are presented in chronological order according to the timeline. Each observation is accompanied with a label that indicates whether it is preserved (red, →), it is not preserved (grey, →) or unknown whether it is preserved (blue, →) within the PoA Authority regarding other PoA development projects.

Analysis

→ The exceptional framework decision approach was new for the Flemish Government and specially designed for the DGD project, suiting its size and financial and environmental impact. From the insights gained along this research it is not clear whether such a framework has not been applied to other PoA development projects ever since.

→ The Head of the PoA Authority was provided the opportunity to recruit extra capacity needed to realise the DGD project. Also, later along the DGD project, the Head of the Infrastructure department recruits specific extra employees to anticipate on monitoring of the strategic plan process and coordination of environmental studies. These employees could play a keyrole in decision-making, which was exceptional for the DGD project. Nowadays, capacity is still being recruited and organized to improve the readiness for successful further port development. Several departments (environmental department, commercial department, concessions department, patrimony department) that play a key role in PoA development projects are increasing and strengthened.

→ Instead of a special established department to 100% focus on the DGD realisation, internally people were brought together in a projct group without predefined clear structures to be responsible for the DGD realisation. Awareness about the need of project teams for large-scale and/or new projects has developed. Nowadays, establishment and performance of project teams happens in a more structured way. However still the PoA Authority seems to be a typical organic organisation and approaches are very different for every project team. Regarding the PoA development plans on the Ontwikkelingszone Saeftinghe, structures are being organized and processes are being standardized in which time management and risk management are included.

→ The DGD is located on the Left bank in which the PoA Authority does not have a monopoly together with the Antwerp Municipality in decision-making processes. This asked for another approach of the PoA Authority regarding decision-making along the project. Nowadays, since the planned PoA development regards the Left bank, the PoA Authority preserves the awareness of the more complex decision-making procedures.

→ Stimulated by the DGD project, a mental transition took place within the PoA Authority referring to people being more and more aware that environmental aspects should be taken into account along the building of a dok.

→ The development of the MER with specific extra focus on meeting the EU nature legislations and focus on housing and habitat was firstly done in the DGD project. The rejection by the Council of State resulted in a more active attitude of the PoA Authority and the Flemish Government. Nowadays the PoA Authority seems to take the existence of legal procedures and guidelines way more serious. Also the essential new focus on compensation for the DGD made the PoA Authority realise the benefits of fully understanding and taking into account these legislations. The previous way of thinking seems to be slowly replaced by the new way of thinking. Incremental awareness increase happens on the level of authoritative positions. The preservation of this awareness is nowadays also shown by the more and more prominent role and higher involvement of the support staff departments into daily business. The department of juridical affairs has turned from passive and having to response to organisational policies, towards active and being part of policy department. Another example is that the department of environmental issues moved and increased to a pro-active environmental focused component within the PoA Authority.

Furthermore, the throughput of input from technostructure and the operating core to the strategic apex is increasing. Internal involvement in that sense has increased significantly.

→ Along the DGD project, the Natuurplan 2000 was established as a nature development scheme to improve the effectiveness of the informal way of decision-making along the project. This scheme is still preserved within the PoA Authority for realization of PoA development projects according to the accepted housing and habitat guidelines.

This relates to that after the DGD project the plans for definite delineation of the port area are developed. This also extrapolates to a plan of developing a definite nature maintenance plan to enable port development in the coming 20 years under insurance of consequent application of European environmental guidelines.

→ Collaborations between departments involved in the DGD project strengthened to increase the progress of the DGD project. Nowadays different departments start to work together in order to manage plan process together.

→ The PoA Authority nowadays is more externally oriented and has a more pro-active attitude with regard to port development. This seems to have been boosted by the DGD project. Departments nowadays have a higher focus on collaboration and mutual involvement with external parties and have a more strategic and commercial focus. This also relates to the new focus of the PoA Authority to have a role of not only maintaining and developing the PoA Authority itself, but also on managing the whole port community. An example that relates is the body for monthly stakeholder meetings, developed by the PoA Authority, to create coalitions for initiatives and keep awareness on environmental issues high.

→ Especially for the DGD project a new protocol is developed between public actors to share responsibilities of the compensation plan. From the insights gained along the research it is unknown whether such a protocol has been developed for other PoA development projects as well.

→ A Management Committee was established along the DGD project responsible for supervision of measurements along the entire project to increase control on realisation of the compensation plan. This Management Committee is still maintained and even developed in a Section specifically for the Left bank and the Right bank part of the PoA.

Observation 3 – Long-term preservation of DGD related changes in working approach

No specifically dedicated department was developed with an exceptionally designed organisational structure and -culture and working approach to 100% focus on the DGD realisation, however changes in working approach due to the project are observed. The PoA Authority seems to have incrementally changed to improve its effectiveness with respect to the project and later on with respect to other port development projects. It seems that almost all incremental changes that relate to the project are preserved. Many incremental internal organisational changes and reorganisations to improve effectiveness and internal collaboration with respect to PoA development took place within the PoA Authority a couple of years after the DGD was finished.

Furthermore, significant mentality shifts can be observed throughout the major part of the PoA Authority regarding the importance of environmental impact related anticipation. Technostructure and support staff are nowadays also more involved on strategic level to provide the strategic apex input on these aspects. Attitude shifts are similarly observed with regard to the importance of external focus and performing more active as a pro-active landlord port with respect to potential port development. Another observation is standardization increase with respect to stakeholder involvement and for improvement of future port development projects approaches to improve planning and anticipation on risks. Some shifts seem to be clearly stimulated by the DGD project, while some are emerging along the flourishing trend of pro-activeness and external orientation that is driven by other factors.

Interpretation

These observations can have various explanations. That many incremental organisational changes and reorganisations took place a couple of years after the DGD project is probably because along the DGD project there was no time and space to put priority on such changes for effectiveness improvement. However, awareness about the need for it did emerge along the project (especially to get the zoning plans approved by the Council of State and for involvement of all concerned

actors to improve decision-making processes) shown by the observed significant mentality shifts that have been taking place within the Port Authority. These shifts seem to be fundamental for actual changes in working approach regarding port development. An example of how the mentality shifts are shown in practice is how the position and role of the technostructure and support staff has changed within the organisation. Their ensured extent of involvement on strategic level nowadays shows that the PoA Authority preserved the lessons-learned along the DGD project and more and more perceives the shifted mentalities and attitude as standard. The shifts in attitude probably relate to the mentality shifts. An explanation might be that mentality on strategic level results in shifts within corporate strategy that influence the visions and goals on department and division level. An example is the increased pro-active and externally oriented attitude and strategic focus on new challenges, which are probably an effect of shifts on corporate level to increase anticipation on maintaining market position and support from environment for port development. The observed mentality shifts could also relate to the increasing standardization. For example observed standardization with respect to stakeholder involvement facilitates pro-active and externally oriented attitude and that with respect to improvement of planning and anticipation on risks facilitates pro-active mentality and strategic focus on new challenges.

4.2.4 Coherence organisational structure and -culture typifications

In this Section the coherence of the organisational structure and –culture typification is analysed for both the previous PoA Authority and the current PoA Authority. Just as for the PoR case, the characteristics are compared by which Mintzberg (2006) and Cameron & Quinn (1983) describe their distinguished types of organisational structure and –culture.

Analysis previous PoA Authority

Analyzing the coherence between the organisational structure and –culture is done firstly by looking to what extent the three organisational structure types of the typification (Simple Structure, Professional Bureaucracy and Adhocracy) match the most dominant organisational culture types in the plot (Clan, Market and Hierarchy). Secondly can be analysed to what extent the same three organisational structure types contradict the organisational culture type that scores lowest (Adhocracy).

Simple Structure, Professional Bureaucracy, Adhocracy & Clan, Market, Hierarchy
- The Simple Structure organisational structure type and Hierarchy and Market organisational culture types surprisingly contradict. A Simple Structure has hardly any formalized behaviour, hardly makes use of planning and binding means and is typically organic, whereas Market typically has a management that drives the organisation towards results, productivity and has clear purposes and aggressive strategies. The Simple Structure contradicts also with Hierarchy since organisations with such organisational culture are described as formalized and structured work places that are hold together by standardization of work processes and outputs.
  However, Simple Structure and Clan do match regarding the organic character. A typical Clan organisation is based on flexibility and internal focus.
- The Simple Structure and Clan also match in another way. In a typical Simple Structure, employees have overlapping tasks and have limited differentiation between departments and a small hierarchy of managers. This matches with Clan, since it fits an organisation that stimulates teamwork, cohesion, participation and shared values and goals.
- Professional Bureaucracy and the Market organisational culture show contradicting characteristics. In a Professional Bureaucracy the emphasis is on skills and professionalism instead of for example position within the market, whereas the Market culture fits an

organisation that faces new competitive challenges and has strong emphasis on external positioning, competitiveness and productivity.
- The Adhocracy organisational structure and Market organisational culture seem like a match. An adhocratic organisation aims to rapidly adapt to changing environments and decision making is decentralized to the market-oriented ad-hoc project teams who operate on various places within the organisation to facilitate their speed of progress. This coheres with the Market organisation that typically is oriented to the external environment and has its emphasis on external positioning and control. It also typically has a management that is driving the employees towards productivity and results. This would match a management of the Adhocracy organisational structure that provides the decision-making power towards the ad-hoc teams to make them able to rapidly adapt to the market, achieve results and be productive.
- Typical for Adhocracy organisational structure is performing non-routine tasks, which contradicts the predictable outcomes that fit a Hierarchy organisational culture.

Simple Structure, Professional Bureaucracy, Adhocracy & Adhocracy
- The Simple Structure and the Adhocracy organisational culture type would match in the sense that the Simple Structure has hardly any formalized behaviour and represents an organic structure and the Adhocracy fits an organisation in which people work on ad-hoc force which disbands as soon as the task is completed.
- Professional Bureaucracy and Adhocracy organisational culture seems like a match. In the Professional Bureaucracy work is strongly specialized in horizontal direction and has a high number of specialists/professionals. Decision-making power is usually decentralized to provide autonomy to the specialists/professionals who are highly trained and are relatively independent of their collegues. This could match with the Adhocracy organisational culture in which managers have the role to foster entrepreneurship, creativity and creating a vision of the future with a disciplined imagination and in which people tend to take risks. From this mentality, the specialists/professionals of the Professional Bureaucracy probably would achieve their autonomy to be creative and take the needed risks towards success.
- Furthermore, it is remarkable that the Adhocracy organisational structure belongs to the organisational structure configuration and in the same time the Adhocracy organisational culture scores lowest. Both would match well regarding their (not surprisingly) strongly cohering characteristics.

Analysis present PoA Authority

Analyzing the coherence between the organisational structure and –culture of the present PoA Authority is done similar to that of the previous PoA Authority. So the analysis focuses on to what extent the three organisational structure types (Simple Structure, Machine Bureaucracy and Adhocracy) match with the most dominant organisational culture types in the plot (Market, Hierarchy and Clan). And secondly to what extent these organisational structure types contradict the organisational culture type that scored lowest (Adhocracy).

Simple Structure, Machine Bureaucracy, Adhocracy & Market, Hierarchy, Clan
- The observed coherences and contradictions between the Simple Structure and the Adhocracy organisational structure types and the three organisational culture types are mentioned in the previous PoA Authority part. Those observations also count for the present PoA Authority since the combinations of organisational structure and –culture can be found in both the previous and present organisational profiles. The only changed cornerstone organisational structure type is the Professional Bureaucracy of the previous PoA Authority, which is replaced by the Machine Bureaucracy in the current PoA Authority.

- The Machine Bureaucracy organisational structure and the Clan organisational culture have contradicting characteristics. In a typical Machine Bureaucracy tasks are clearly grouped on functional basis, whereas in the Clan organisational culture cohesion, shared values and goals and teamwork are typical.
  Another contradiction is that the Machine Bureaucracy is characterized as having a high degree of formalization and work specialization, whereas Clan typically fits an organisation that is characterized as a family and based on flexibility.
- The Hierarchy organisational culture has a relatively high score in the plot and clearly coheres with the Machine Bureaucracy in the sense that decision-making power is relatively centralized and relatively comprehensive management structure shows clear distinction between line and staff. Also rules, regulations and formalized communication are very common throughout the entire organisation. A typical Hierarchy organisational culture is typical in bureaucratic organisations with clear lines of division-making authority and standardized rules and procedures since control and accountability mechanisms are valued as keys to success.

Simple Structure, Machine Bureaucracy, Adhocracy & Adhocracy
- Also the observed surprising set of cohering characteristics between the Simple Structure and Adhocracy organisational structure types and the Adhocracy organisational culture type (representing the lowest score in the organisational culture plot) are mentioned in the previous PoA Authority part.
- The Adhocracy organisational culture however indeed contradicts with the current PoA Authority specific Machine Bureaucracy structure. The Machine Bureaucracy typically has an overload of rules, regulations and formalized communication throughout the entire organisation and there is a high degree of formalization and work specialization and tasks are clearly grouped on functional basis. This would not match the Adhocracy organisational culture which would fit a flexible organisation in which employees work with temporary structures for every project in a typically dynamic, entrepreneurial and creative workspace with the mentality of performing 'on the cutting edge'. The Machine Bureaucracy typicalities, especially the formalized communication and high degree of formalization and work specialization, would also contradict with the typically Adhocratic culture employees who tend to stick out their necks and take risks.
- Also for the current PoA Authority it is remarkable that the Adhocracy organisational structure belongs to the organisational structure configuration and in the same time the Adhocracy organisational culture scores lowest. Both would match well regarding the, not surprisingly, strongly cohering characteristics.

Observation 4 - Coherence organisational structure and -culture typifications

Surprisingly for both the PoA Authority nowadays and in times of the DGD project only few (but strongly) cohering and relatively many contradicting characteristics can be observed between the organisational structure and –culture typifications of both their organisational profiles.
Also remarkable observation regarding the previous PoA Authority is that the lowest scoring organisational culture type Adhocracy matches relatively well with all the organisational structure typifications that belong to its organisational structure configuration. However nowadays, the new cornerstone Machine Bureaucracy of the current PoA Authority organisational structure configuration contradicts with the characteristics of Adhocracy as still the lowest scoring organisational culture type.

Interpretation

The comparable level of coherence regarding the previous and current PoA Authority logically follows from the almost equal organisational culture plots and the significant amount of similarities in organisational structure typifications. Regarding the previous PoA Authority, the observed relatively low amount of coherences and high amount of differences between

organisational structure and –culture could mean that the organisational structure and –culture combination within the PoA Authority counteracted the organisations effectiveness along the DGD project. The organisational culture among those involved in the DGD project probably did not facilitate the organisational structure among them, and the other way around. This lack of coherence could even have been amplified by the complexity and pressure behind the project. Also the hybrid character of the Port Authority and the absence of an organisation-wide culture (organisational culture was very case and team dependant) are also possible causes. The surprising observation regarding the previous PoA Authority that Adhocracy (the lowest scoring organisational culture type) matches best with the three organisational structure types is due to observed matching organisational characteristics, however might relate to the usability of the research methodological framework. As also mentioned in the PoR case, interviewees might show a variety in perception and definition of certain organisational characteristics, which could have resulted in observed similarities in the typifications which in practice do not seem to refer to the same characteristic. Regarding the current PoA Authority, the observed relatively low amount of coherences and high amount of differences between organisational structure and – culture could be explained by the same organisational culture characteristics that are mentioned for the previous PoA Authority, since their organisational culture profiles seemed to be almost similar. However, since the observed Machine Bureaucracy organisational structure characteristics of the current PoA Authority contradict with the Adhocracy organisational culture (still the least dominant), coherence seems to have increased over the years. Therefore, the increased level of coherence seems like an important determinant for improvement of the organisational effectiveness. Furthermore, as also explained for the PoR case, distribution among interviews regarding organisational structure and –culture related remarks probably also have determined the final typifications and thereby the level of coherence.

4.2.5 Representativeness of organisational structure and –culture typifications

Regarding the current PoA Authority, the developed organisational structure typification seems to correspond very well with the expectations of the iterative feedback group respondents. One describes the distinction between overall organisational structure characterized as Machine Bureaucracy and the structure with specific respect to projects, which could be explaining for the mix of those types in the final typification. Regarding the organisational culture, the average plot of the current Port Authority also seems to correspond to a quite high extent. The majority of the scores given by the respondents were comparable with those on the axes of the plots, however the Clan type shows a clear contrast, which could be due to the strong difference between departments and divisions that was often mentioned by the interviewees in this research. Since all interviewees for the previous PoA Authority typification are also interviewees for the current PoA Authority typification, the assumption is made that the extent of representativeness of the current PoA Authority is equal to that of the previous typification.

4.3 Reflection on the cases

As becoming clear when overviewing the interpreted observations, the Port Authorities seem to have been differently effected by their projects over the recent years. Although a mutual comparison between both case studies does not correspond to the main goals of this research, a brief reflection on each is given to put the observations from both case studies into perspective.

Both Port Authorities show clear difference in how the MV2 and DGD project proceeded and how they changed internally to improve organisational effectiveness to let their projects be realised in the end. Also both show clear difference in long-term effect that the projects had on their organisational effectiveness with respect to port development projects.

Regarding the PoA Authority, the working approach along the DGD project was organic and uncontrollable. Changes to improve organisational effectiveness happened in an incremental way as a delayed long-term impact, mainly driven by mentality shifts. Regarding the PoR Authority, the approach to let the MV2 project proceed successfully resulted from a clear strategy that was defined in advance. Changes to improve the organisational effectiveness happened in a direct way as a delineated and short-term impact, driven by a clear strategy.

Each Port Authority shows a different intensity distribution with respect to the organisational focus for organisational change to improve their effectiveness towards port development.

Furthermore it seems that in the PoA Authority more long-term changes took place since their project, compared to the amount of rolled out successes of the PMV2 in the PoR Authority. The difference in combination of organisational structure, -culture and applied working approach could be an explanation. Organisational structure and –culture characteristics might have or have not been suitable for preservation of certain attempts to preserve valuable lessons-learned. For example successful characteristics of the delineated PMV2 might have caused lower mentality shifts throughout the entire Port Authority, because of not fitting in the way of working and thinking in the Port Authority. Contrastingly in the PoA Authority, the incrementally changes in working approach were implemented parallel to emerging mentality and attitude shifts. Implementation happened when employees together formed a suitable context for change.
However, to properly compare the long-term effect of the DGD project on the PoA Authority and the MV2 project on the PoR Authority, the same amount of years should be analysed as period in which the long-term effects could have manifested themselves.

A final valuable observation to mention is the apparent similarity of the organisational structure configurations of the PMV2 and the current PoA Authority. As the PMV2 was established according to clear strategies (regarding its management, organisational structure, vision, mentality, working approaches etc.) to maximize the effectiveness and learning curve of the organisation, the PoA authority has incrementally implemented strategic shifts within the organisation over a longer period of time towards a relatively improved organisation regarding its effectiveness. From this understanding the observed similarity in organisational structure configuration could mean that the applied research framework was able to identify the relatively effective organisational structure configuration, which is satisfying in its level of credibility. Also this observation could mean that the configuration represents a relatively effective organisation.

Sub-conclusion Q6: The overall long-term effect of the MV2 on the PoR Authority is relatively low. With respect to organisational structure the effect is significantly visible regarding the increased integration of project phases and stimulation of mutual adjustment. The effect on organisational culture seems insignificant, mainly due to the large difference in backgrounds and mentality of those involved in the projects. The effect on working approach is relatively low and refers to increased standardization of work processes and some successes being perceived as best practices in exceptional cases. The long-term effect of the DGD on the PoA Authority is relatively large. However specifically the effect on organisational structure is relatively low, represented by a slow change from professional bureaucracy towards machine bureaucracy due to increased standardization of processes and individual performances. The effect on organisational culture also seems relatively low as well, however includes significant changes towards pro-active, externally oriented, collaborative and added-value mentality. Regarding working approach the effect is relatively large, shown by the many incrementally implemented organisational changes and reorganisations to improve organisational effectiveness and internal collaboration with respect to port development, parallel to significant mentality and attitude shifts. Furthermore, a higher level of coherence between the organisational structure and –culture characteristics indeed seems to result in a higher level of organisational effectiveness.

5. Discussion

After completing the interpretation phase, discussion follows about the extent in which the case study results are able to answer Q2 until Q6 and thereby to answer the main research question. Since this extent strongly depends on the way in which the results are gained, the second point of discussion is on what this extent means regarding the usability of the developed research methodological framework now it is applied to the cases. The latter contributes to drawing the conclusions regarding Q1.

5.1 Ability of case results to answer research sub-questions

Q2 - The given introductions to the cases commit to the goal of answering Q2 and therefore should have provided a proper overview about the case context as a basis for understanding further research steps. A proper overview was assumed to include introduction to the Port Authorities, brief description about the MV2 and DGD project including the urge and the strategic motivation behind them, an overview of the progress of their realisation including the key events and main affected actors and finally an overview of national characteristics typical for the Port Authorities. The provided introductions included all of these aspects and thereby answered Q2.

Q3 & Q4 - The point of discussion regarding Q3 and Q4 is whether the extent of representativeness of the developed organisational structure and –culture typifications is high enough to function as answers of the two sub-questions. Regarding the separate typifications developed from the individual interviewee results, it can be assumed that these are indeed representative for the organisation from specifically their point of view. The final average typifications are sensitive to the interpretation of the researcher. Based on the responses along the iterative feedback step the extent of representativeness of these typifications was indicated. The indicated extents of representativeness of all organisational structure and –culture typifications are overviewed in Table 4.

Table 4 – Overview (developed by researcher) of level of representativeness of the developed typifications, indicated by the iterative feedback step

Sub-question	Organisation	Organisational culture typification	Organisational structure typification
Q3	Previous PoR Authority (PMV2)	Quite representative	Semi representative
	Previous PoA Authority	Quite representative	Very representative
Q4	Present PoR Authority	Semi representative	Quite representative
	Present PoA Authority	Quite representative	Very representative

From these indications, it seems that Q3 is quite well answered with respect to the organisational culture typifications of both cases and with respect to organisational structure semi answered for the PMV2 and contrastingly very well answered for the PoA Authority. Q4 seems to be semi and quite well answered regarding respectively the organisational culture typifications of the present PoR and PoA Authorities. Regarding organisational structure, Q4 seems to be answered quite well.

Q5 - The next point of discussion is whether the developed overviews of changes in working approach since the DGD and MV2 projects are complete enough to represent sufficient answer for Q5. The input for the overviews comes from both interviewees who were involved in development of the new working approaches along the projects and who have currently experienced their roll-out. Together, this should give insight about the effect of the new working approaches project on other PoR and PoA development projects. Regarding this approach and the extensive amount of input gained from all interviewees, the assumption is made that the overviews are sufficiently complete and thereby provides sufficient answer to Q5.

Q6 - The final point of discussion concerns whether the identified long-term effects of the MV2 and DGD on the Port Authorities together provide sufficient and valuable overview. Since these effects are identified by bringing the results of Q3, Q4 and Q5 together, the extent of sufficiency and value strongly depends on the findings with respect to these sub-questions. From the prior discussions it seems that regarding the organisational structure and –culture the identified long-term effect is probably sufficient and valuable, however can be improved on several aspects by optimizing representativeness of the typifications. According to the discussion about Q5, the overviews of changes in working approach are assumed to be sufficiently complete, meaning that the identified long-term effects of the projects with respect to new working approaches are probably quite complete as well.

5.2 Usability of research methodological framework

This part of the Chapter includes the discussion about sub-question Q1. To clarify, Q1 was formulated as follows: *'How can the change in effectiveness of the PoR and PoA Authorities due to respectively the MV2 and DGD be investigated?'*

The observations along the analysis phase of this research are assumed to be indicating for the usability of the developed framework. The bias phenomenon is one of the determinants along the interpretation of these observations and thereby for the usability of the framework. From interpretation of several remarkable or surprising observations (related to organisational culture) it seems that this phenomenon probably has been playing a significant role. The phenomenon might be explaining for surprising or relatively remarkable observations with respect to the change in organisational culture since the MV2 and DGD. For example the observed changes in organisational structure and –culture could in practice be less significant or be even stronger.
An observation that shows an example of the bias phenomenon is a characteristic that seemed to be similar between the PMV2 and the current PoR Authority. The interviewees of the PMV2 and of the PoR Authority both typified their organisation as being organic, however both referred to something completely different in practice. A remarkable observed similar characteristic between the PMV2 and the PoR Authority that in practice seems to contrast, is the role of managers and their view on team members. Regarding this observed similarity, the bias phenomenon might have occurred due to the difference in perspectives of interviewees with various positions within the organisation. Another analysis step in which probably bias might have been a significant cause behind certain observations, is when analysing the coherence between the organisational structure and –culture typifications. Here, the bias phenomenon might have been represented by the possible variety in perceptions and definitions of organisational structure and –culture characteristics by the interviewees. This variety could have resulted in observed differences or similarities in the typifications that might not be representative for the organisation in case.
The mentioned examples show steps within the research methodology framework that are relatively sensitive for the bias phenomenon. For these steps, the interpretation phase is important to nuance the related observations and identify when the bias phenomenon influenced the results.

The question rises whether the framework is designed in such a way that flexibility of interpretation is minimized. In the empirical part of the framework the organisational structure, the organisational culture and the changes in working approach within the organisations incase were investigated. Regarding the investigation of the organisational structure, the sensitivity for interpretation flexibility was relatively high since the separate typifications that resulted from the interviewee answers always resulted in a mix of organisational culture types. This increased interpretation flexibility when boiling down these different mixes into one representative organisational structure configuration. Regarding the organisational culture, along the interviews the dimension alternatives were also quite flexible in how they could be interpreted, resulting in

flexible scoring of the interviewees. The interpretation of the results was also quite flexible for the researcher since explanatory remarks of the interviewees about their scores and their descriptions about relatively abstract organisational characteristics had to be transformed into a total organisational culture typification. Furthermore, the investigation of the changes in working approach was relatively insensitive for flexible interpretation since it came down to collecting, structuring and categorising facts gained along field research and concrete remarks made by interviewees.

A related aspect important for discussing the usability of the framework regarding the organisational culture related parts is that the set of six dimensions and their distinguished alternatives could be outdated or incomplete with respect to the cases of this research. For example new focus points could have become important on which organisations anticipate, from which a new type of organisational culture could arise. This could be one reason for that certain interviewees found it difficult to add up their 100 points over the available alternatives according to Cameron & Quinn (1983). Some interviewees mentioned that alternatives were missing to give a representative distribution of points that would characterize their organisation.

When assuming that the organisational culture typifications for both cases are representative to a proper extent, the methodology of Cameron and Quinn (2006) seems to have been a suitable approach to achieve an organisational typification resulting directly from qualitative interviewee remarks in combination with their quantitative scores. Compared to for example the considered 'Iterative Clinical Research' method of Schein (1989) in which the researcher has a significantly larger contribution to the perception, definition and identification of the organisational culture characteristics, the method of Cameron and Quinn (2006) seems to be clearly less sensitive for bias with respect to the researcher.

Another limitation of the framework is the temporary character of its outputs. Along the performance of the research new strategies might be developed or implemented in the Port Authorities, possibly causing shifts on organisational structure and –culture level and making the developed typifications along the research outdated.

Regarding overall usability, the question rises whether this research methodological framework would be applicable to other cases and other types of organisations. The framework could be suitable to any case including any type of organisation in which the aim is to investigate what the long-term effect of a certain project is on the organisational effectiveness. The variety in actual application of the framework to different organisations lays in which national culture characteristics to take into account, the set of interviewees to be approached and the interview questions about the case context. The organisation in case can vary from a total company to a department to even a project team. Important however is that the organisation has been operational for a period in which an organisational structure is applied and an organisational culture has been able to flourish.

6. Conclusion & Recommendations

After performing and discussing the steps of the research methodological framework, the main conclusion can be drawn with respect to the main research question. Subsequent recommendations refer to the research limitations, the potential for further studies and to the Port Authorities in case.

6.1 Main conclusion

The Port Authorities of Rotterdam and Antwerp seemed to lack in readiness for port development in times of respectively the MV2 and DGD realisation. This is shown by the unignorable resistances that were experienced especially with respect to stakeholder interests and ecological impact. Since port development projects are and will stay important to maintain their market positions, this research investigates the long-term effects of the MV2 and DGD on the Port Authorities to gain insights in whether they have improved their organisational effectiveness. A research methodological framework was developed to be able to perform this investigation from a point of view that includes organisational structure, -culture and organisational working approach with respect to development projects.

The mentioned sub-conclusions after all performed research steps are the fundament for the main conclusion of this research that should answer the main question. This question was formulated as follows: '*What is the long-term effect of the MV2 and DGD project on the effectiveness of respectively the PoR and PoA Authority regarding port development and how can this be investigated?*'
The overall long-term effect of the MV2 project on the organisational effectiveness of the PoR Authority with respect to other projects is relatively low mainly due to the large gap with project characteristics and organisational characteristics regarding the PMV2. The overall long-term effect of the DGD project on the organisational effectiveness of the PoA Authority is relatively large mainly due to the incremental way in which implementations of organisational changes took place parallel to organisation-wide facilitating mentality and attitude shifts. The long-term effect of the projects on organisational effectiveness can be investigated by finding the related differences and similarities in organisational structure, -culture and working approach in the Port Authorities between those who were involved in them and those currently involved in port development. The observed differences and similarities indicate the extent in which the lessons-learned are or are not maintained within the organisation with respect to the long-term improvement of organisational effectiveness. Also the change in level of coherence between the organisational structure and –culture characteristics is an indicator for the long-term effect. The investigation with respect to organisational structure and –culture is relatively sensitive to the bias phenomenon and researchers' skills compared to that of the changes in working approach.

6.2 Recommendations

6.2.1 Regarding performed research

A recommendation regarding the lack of clarity about whom to compare with whom within the Port Authorities would be to compare those involved in the MV2 and DGD with a team of employees currently working on a large-scale port development project. Since this way the employees are bounded via their projectorganisation, this would also improve the extent of equal perception about certain organisational characteristics.
Another recommendation regarding the steps of the developed methodological framework that are relatively sensitive to the bias phenomenon is to perform the iterative feedback step also before the analysis phase of the research. The researchers interpretation plays a large role in the

phase when the separate interviewee typifications are boiled down to one average typification. When relocating the feedback step right after this development, the typifications could be reviewed and improved to make them more representative for the organisation in case. This would increase the reality value of the observations along the analysis and subsequently of the interpretation of these observations. The iterative feedback could be still performed a second time with respect to the discussion phase of the research.

A third limitation to mention is the dependence of the research on the researchers' interpretation skills regarding the answers given by the interviewees. In order to improve the researchers interpretation, mentioned definitions of certain organisational characteristics could be checked with other members of the organisation in case. A certain mentioned characteristic could for example be formulated differently by different organisational members, which might be interpreted by the researcher as two different characteristics. By checking the certain definitions with other members, the variety in formulations of interviewees is taken into account and would therefore help the researcher understand, structure, analyse and interpret the interviewee input.

A related recommendation, concerning the extent of representativeness of the typifications is to take the distribution of remarks about organisational structure and –culture among different interviews into account during their development. A lower distribution could cause unrepresentative characteristics to be emphasized due to differences between interviewees regarding their interpreration and formulation of certain characteristics. Another way of improving representativeness is to enlarge the set of interviewees. The more interviewees involved, the better different perceptions can be observed and certain typicalities of the organisation can be identified. Then, also the researcher has more input to base the final average typifications on. However, the distribution of the interviewees over the organisation is then important to take into account. When the interviewees are unevenly distributed over the organisation, they can pull the average typifications towards them. Whether this influence is positive or negative depends on the role, personality and involvement of the dominantly represented interivewees within the organisation.

Regarding the developed framework, the fact that the definitions used in the separate elements are not calibrated with eachother is another limitation of the performed research. With respect to better integration of the framework elements and minimization of interpretation variety, a recommendation is to investigate how the definitions of Mintzberg (2006) for organisational structure and of Cameron & Quinn (1983) for organisational culture could be calibrated.

Furthermore, a recommendation to refine the identification of long-term effect specifically of the MV2 and DGD project on the Port Authorities is to also investigate the organisational structure, -culture and working approach before the projects and include this in the comparison.

Finaly, to refine investigation of the long-term effect of the projects with respect to organisational culture, the six dimensions distinguished by Cameron & Quinn (1983) could be analysed individually. Also the representativeness of the assumed weights to the interviewees could be investigated by mutual adjustment about these weightings with the interviewees themselves or for example by finding correlation between varying weighings and the results of the iterative feedback step.

6.2.2 Regarding further research

A first recommendation regarding further research is to investigate the wider usability of the developed framework by applying it to a variety of organisations with different types of projects that might have influenced their organisational effectiveness. Specifically with respect to the

scientific field of Industrial Ecology, the framework could be applied to a set of cases in which organisations are planning to create industrial symbiotic synergies to increase insights on how it can be used as a tool to investigate readiness for such strategies and to investigate the match between the organisations in case that will potentially collaborate with eachother.

The currently developed methodological framework focuses on the internal organisational characteristics that could enforce or delimit the organisational effectiveness. However it seemed that external factors of regional, national or European level could also have significant influence. A recommendation for further research would therefore be to investigate how the framework could be extended in a way that external factors are also taken into account. A suggestion would be to check the possibilities for additional investigation of the organisational structure between state and market, mentioned in Appendix 'B.2 Investigating organisational stucture', and how this influences organisational readiness for the implementation of certain strategies within the organisation. Another suggestion is using the multilevel actor overview such as the one presented in Appendix 'C.1 PoR Authority and MV2 project', Figure 29. The relevant actors including their role and interests could be involved in the investigation of long-term effect of the project in case on the organisations effectiveness. This would contribute to the insights in factors that the organisation in case should take into account when investigating their readiness for the implementation of certain new strategies or execution of certain new projects.

To tackle the discussion point that the Mintzberg (2006) and Cameron & Quinn (1983) methods might be outdated, a recommendation is to review the different organisational structure and – culture types and their dimensions and improve the set in a way that it covers current trends of organisational characteristics. Examples of such trends and how they could be integrated could be the increase in strategic focus for people, planet, profit as an alternative for the 'strategic focus' dimension of organisational culture. Another example could be other types of key elements in the organisation, such as long-term hired external consultants who become part of the organisational structure and –culture.

Furthermore, the potential of the developed framework could be increased by applying it to a selected set of acknowledged 'success-story' organisations of specific type or within a specific market. This way typical effective organisational typifications could be identified from which learning organisations can benefit. This recommendation is based on the observation done with respect to the organisational structure configurations when briefly comparing the PoR and PoA case results. It seemed that in both cases the same combination of organisational structure cornerstones (Simple Structure, Machine Bureaucracy and Adhocracy) represents the relatively effective organisations. This combination might therefore represent a typical effective configuration with respect to large-scale port development projects. Entrepreneurs or start-ups that aim to enter a certain market could use such insights to strategically adapt or steer their own organisational typifications and to better understand their potential competitors/partners.

A final suggestion is to investigate the possibilities whether the framework could be applied to formulate transition paths towards improved organisational readiness with respect to organisational structure and -culture for new strategies. This could for example be done by investigating the current organisational structure and –culture and design a favoured future organisational structure and –culture that would better fit new strategies that are planned to be implemented for example. Comparing those typifications then could provide the needed input for defining transition paths towards this favoured future organisation.

6.2.3 Directed to Port Authorities

Because of the hybrid character of both Port Authorities, the absence of a common organisational structure and –culture seems to result in a lack of common goals and visions throughout the organisation, which stimulates delineation of responsibilities and counteracts creation of a 'we'-feeling and a homogeneous stable basis to let strategic transitions go faster and to decrease organisational complexity. A recommendation therefore is to use the developed framework to investigate the organisational characteristics of the separate disciplines of the hybrid structure to better understand existing differences and improve the coherence, integration and collaboration between them based on the gained insights.

The importance of this recommendation stems from the research findings, however can be emphasized by organisational culture related statements that were made before when defining the research context in Section '1.1 Definition of the research context'. It seemed that problems among different organisational departments with different sub-cultures that have to work together could be understood as discrepancies within organisational culture. As Schein (1989) stated, organisational culture can be interpreted as an explanation for internal organisational dynamics.

Furthermore, a general recommendation is to increase awareness about the effect that a certain extent of coherence between organisational structure and –culture can have on the organisational effectiveness. This way, the causes behind internal discrepancies or keys to successes are better understood. Since the adaptation of organisational structure to the situation in which an organisation operates improves the organisational effectiveness, increasing coherence with organisational culture or strategically stimulating this coherence for a project team in its preliminary phase could be beneficial. Earlier statements made when defining the research context emphasize the importance of this recommendation. It seemed that development of (new) strategies in an organisation strongly depends on its organisational culture and that the extent of organisational effectiveness with respect to these strategies strongly depends on the match with its organisational structure. This clear link between organisational structure and culture refers to the importance of coherence between them with respect to long-term organisational effectiveness.

7. Reflections

In this chapter I reflect on the performed research after completion. The first Section includes my reflections on the research findings and the second one briefly on the research process.

7.1 On research findings

Final reflections on the research findings refer to assumptions that have been made in the research and significantly determined choices and interpretations that were made.
A first one refers to the national culture characteristics and was made in section '1.1 Defining the research context'. As being the deepest cultural layer of the Port Authorities, I assumed they are insignificantly affectable by the DGD and MV2 project. This assumption is confirmed by results showing that majority of similar characteristics between previous and present Port Authorities relate to national culture characteristics and those that differ rather relate to other organisational characteristics.
Also related to national culture characteristics, I assumed that the differences among the two Port Authorities would be important to take into account along the performance of the research and along the interpretation of the results. Looking back to the collaboration with both Port Authorities and to the interaction with the interviewees, I feel that this assumption is certainly valid. To generalize, Dutch and Flemish people express different typicalities which its valuable and even important to be aware of. An example regarding the 'Power Distance' dimension of national culture is that the overall communication with PoA Authority was as expected of higher formality level compared to the PoR Authority. However, an example that was against my expectations when being aware of the national culture differences, regards the difference in score among typical Dutch and Flemish people on the Masculinity dimension. I pleasantly experienced in both Port Authorities a high level of openness and equality in all communication.

Another assumption made, in section '1.2 Research relevance & goals' is that the previous and current effectiveness of the Port Authorities are both determined by organisational structure and –culture. When looking back to the findings, I am convinced of the validy of this asumption. It is mainly confirmed by the results showing significant differences between the previous and present organisations and clear similarity in the effective organisational typifications of the two cases (PMV2 and current PoA Authority). Also the assumption was made that coherence between organisational structure and –culture is an indicator for organisational effectiveness. This assumption seems to be confirmed by the results of the PoA case; the organisational structure and –culture characteristics of the Port Authority seem to have been changing in such a way that coherence between them increased, parallel to numerous changes in working approach that have increased their organisational effectiveness with respect to port development.

Furthermore, when performing the literature study for developing the research methodological framework, I took the assumption that the gained collection of alternatives was rich enough to establish a proper framework from, suiting the skills and available resources. After having designed and applied the framework, I believe that the collection indeed was rich enough. It contained a set of methods by which the research questions could be answered.
Also, in section '2.1 Approach' the set of chosen elements for the framework was assumed to be sufficient and complementary, while this set might have been not sufficient or complete. After having applied the methodological framework to the cases it seems that the involved elements are indeed an appropriate set for investigation of organisational effectiveness. However from the insights gained one can tell that external factors and actors, which are now taken into account only to limited extent, are also dominant determinants. Therefore, as I also mentioned in section

'6.2 Recommendations', taking into account also the external determinants would have provided results of higher value.

The method of Mintzberg (2006) proved to be very clear and quick in usage and helped to understand the Port Authorities as organisations with distinguishable elements and thereby helped to select the set of interviewees. However, despite Mintzberg distinguishes the five organisational structure types as cornerstones of a field of optional configurations, it seems to lack with respect to instructions on how to come from multiple answers given on the dimensions (from the different interviewees) to a final combination of types as organisational structure configuration. Furthermore, the Mintzberg model only suits investigation of one organisational configuration, whereas organisational structure configurations might shift over different project phases. The same counts for the chosen OCAI method of Cameron & Quinn (1983). Regarding their method, alternatives of the six distinguished dimensions did not always seem to cover a complete set for the interviewees. This possibly means that the method is outdated or on these aspects less suitable for the Port Authority cases. A clear benefit of the OCAI method apart from its easy and quick use seems to be the ability to investigate organisational culture change on different levels of detail and multiple points of view to be taken along analysis of the results. This refers to the fact that the OCAI method also enables to individually plot and analyse the six organisational culture dimensions. The combination of the Mintzberg and Cameron & Quinn method seemed to work well in creating the interview formats and developing organisational typifications of comparable detail and form.

The final mentioned point of reflection refers to the weighting factors; Weighting of the interviewee answers according to their profile has been determining for the organisational culture typifications. The assumptions made for distributing the weights however deserve critical reflection since interviewees are assessed on their expertise and involvement by the researcher from an external position. The chosen weightings could have been the causes behind certain characteristics being unrecognized by the iterative feedback step respondents, or could on the other hand even have enhanced their recognition.

According to the defined working approach for this research, a sensitivity test has been conducted to indicate the impact of the applied weighting system. As becoming clear from this test, the used weightings do have a visible impact on the shape of the organisational culture plots. However, it seems that the general balance between the four organisational culture types does still exist when using weightings of opposite value. Thereby the actual scores of the interviewees do seem to dominate the weighting system. Based on these test findings, the weighting system applied in this research can be understood as not being able to be used in a manipulative way. The effect of the weightings is a gentle emphasize of the researchers interpretation. Still, the weighting system is important to be taken into account, to acknowledge the fact that the level of representativeness of interviewee input can vary among different interviewees with different positions, focus and responsibilities within the organisation in case.

7.2 Research process

Regarding the research process, I did not experience significant delays or complications. A critical point however was to succeed in gaining an appropriate set of interviewees to gain representative results, but finaly I reached my aims. The overall communication with the Port Authorities proceeded in a way that I could hold to my planning and plans, which is something am thankful for. When recalling my starting point, I now feel enriched by the valuable and interesting insights that I was able to gain in the research in collaboration with all participants in my research.

References

(2009). (departement Mobiliteit en Openbare Werken) From www.deurganckdoksluis.be: http://www.deurganckdoksluis.be/

Aa, J. v. (2014 йил 13-05). Interview - Previous Situation. (H. Engelsman, Interviewer)

Antwerp Harbour Authority. (2014). *2010 - ... Werken aan de toekomst*. (A. H. Authority, Producer) Retrieved february 2014 from www.portofantwerp.com: http://www.portofantwerp.com/nl/2010-werken-aan-de-toekomst

Arcadis Belgium . (2008). *Project-MER mbt een Tweede Maritieme Toegang tot de Waaslandhaven*. BE Infrastructuur, Ruimte en Verkeer.

Ask Advice & Consultancy. (2010). *Organisatie Cultuur Verandering - OCAI model*. (Ask Advice & Consultancy.) From www.ask-advice.nl: http://www.ask-advise.nl/organisatie-cultuur-verandering/ocai-model

Baas, L. (2008). Industrial Symbiosis in the Rotterdam Harbour and Industry Complex: Reflection on the Interconnection of the Techno-Sphere with the Social System. *Business Strategy and the Environment , 17*, 330-340.

Baas, L. W., & Boons, F. A. (2004). An industrial ecology project in practice: exploring the boundaries of decision-making levels in regional industrial systems. *Journal of Cleaner Production , 12*, 1073-1085.

Becker, A. H., Acciaro, M., Asariotis, R., & Cabrera, E. (2013). A note on climate change adaptation for seaports: A challenge for global ports, a challenge for global city. *Climate Change , 120*, 683-695.

Betitci, U. S., Mendibil, K., Nudurupati, S., Garengo, P., & Turner, T. (2006). Dynamics of performance measurement and organisational culture. *International Journal of Operations and Production Management , 26* (12), 1325-1350.

Bititci, U., Turner, T., Mackay, D., Kearney, D., Parung, J., & Walters, D. (2007). Managing Synergy in Collaborative Enterprises. *Production Planning & Control , 18* (6), 454-465.

Bjork, I. T., Toien, M., & Sorensen, A. L. (2013). Exploring informal learning among hospital nurses. *Journal of Workplace Learning , 25* (7), 426-440.

Blattel-Mink, B. (1998). INNOVATION TOWARDS SUSTAINABLE ECONOMY – THE INTEGRATION OF ECONOMY AND ECOLOGY IN COMPANIES. *Sustainable Development , 6*, 49-58.

Boons, F. (2013). Ecological Modernization and Industrial Ecology. In J. Mikler, *The Handbook of Global Companies* (pp. 388-402). Rotterdam, Zuid Holland, Netherlands: John Wiley and Sons.

Bruijn, H. d. (2014, 06 03). Interview - Current Situation. (H. Engelsman, Interviewer)

Builtjens, R. P., & Noorderhaven, N. G. *The influence of national culture on strategic decision making: A case study of the Philippines*. Tilburg University and Institute for Research on Intercultural Cooperation, Intercultural Cooperation, Tilburg.

Burdon, S., Al-Kalidar, H., & Mooney, G. (2013). Evaluating an organisation's cultural readiness for innovation. *International Journal Business Innovation and Research , 7* (5).

(2006). In K. S. Cameron, & R. E. Quinn, *Diagnosing and changing organizational culture*. San Francisco: Jossey-Bass .

Cameron, K. S., & Quinn, R. E. (2006). Diagnosing and Changing Organizational Culture. *The Jossey-Bass Business & Management Series* .

Chatman, J., & Jehn, K. (1994). Assessing the relationship between industry characteristics and organisational culture: how different can you be? *Academy of Management Journal , 37*, 522-553.

Coeck, C. (2014, 06 05). Interview - Current Situation. (H. Engelsman, Interviewer)

Coeck, C. (2014, 06 05). Interview - Previous Situation. (H. Engelsman, Interviewer)

Delee, M. (2014, 06 04). Interview - Current Situation. (H. Engelsman, Interviewer)

Delee, M. (2014, 06 04). Interview - Previous Situation. (H. Engelsman, Interviewer)

Deltalinqs. (2014). *Deltalinqs - Milieuregelgeving Mainport Rotterdam*. (PersC Communicatie) Retrieved February 2014 from www.deltalinqs.nl: http://www.deltalinqs.nl/index.php?mod=content&section=Milieuregelgeving%20Mainport%20Rotterdam&id=179

Deltalinqs. (2011, december 15). Deltalinqs bepleit intensieve samenwerking. *Havenvisie 2030 - Port Compass , 3*. Rotterdam, Zuid Holland, Netherlands: Gemeenteraad Rotterdam.

Department Mobiliteit en Openbare Werken. (2009). *Project*. (D. M. Werken, Producer) Retrieved 05 2014 from www.deurganckdocsluis.be: http://www.deurganckdoksluis.be/project

Dessel, J. v. (2014, 06 11). Interview - Current Situation. (H. Engelsman, Interviewer)

Dijkema, G. (2006). *Industry and Infrastructure Co-Evolution, Transition management in Rotterdam Rijnmond?* Michigan.

Eelen, I. (2014, 06 04). Interview - Current Situation. (H. Engelsman, Interviewer)

Eyring, V., Isaksen, I. S., Berntsen, T., Collins, W. J., Corbett, J. J., Endresen, O., et al. (2010). Transport impacts on atmosphere and climate: Shipping. *Atmospheric Environment , 44* (37), 4735-4771.

Feenstra, J. J. (2014, 06 14). Interview - Current Situation. (H. Engelsman, Interviewer)

Feldman, M. S. (2004). Resources in Emerging Structures and Processes of Change. *Organization Science , 15* (3), 295-309.

Gazet Van Antwerpen. (2000). *Nieuwskoppen 2000*. (Mediargus) From www.GVA.be: http://www.gva.be/Archief/guid

Gazet van Antwerpen. (2001). *Nieuwskoppen 2001*. (Mediargus, Producer) From www.gva.be: http://www.gva.be/krantenkoppen/zoeken/11/deurganckdok.aspx?q=en_b2napk!az7trv0ou0-e6eq==&g=deurganckdok

Gemeente Rotterdam. (2011, november 15). Toekomst haven gaat hand in hand met toekomst stad. *Havenvisie 2013 - Port compass* , 2. Rotterdam, Zuid Holland, Netherlands: Gemeenteraad Rotterdam.

Gemeentelijk Havenbedrijf Antwerpen. (2013). *Duurzaamheidsverslag 2012*. Antwerp.

Gemeentelijk Havenbedrijf Antwerpen. (2012). *Duurzaamheidsverslag Haven van Antwerpen 2012*. Port of Antwerp. Port of Antwerp.

Gemeentelijk Havenbedrijf Antwerpen. (2014). *Sustainable Services*. (G. H. Antwerpen, Producer) From www.portofantwerp.com: http://www.portofantwerp.com/en/sustainable-services

Gezet van Antwerpen. (2005). *Nieuwskoppen 2005*. (Mediargus, Producer) From www.gva.be: http://www.gva.be/Archief/guid/deurganckdok-is-nu-ook-echt-getijdendok.aspx?artikel=78b33906-d298-4d8d-8eb3-927536d4485b

Gezet van Antwerpen. (2002). *www.gva.be*. (Mediargus, Producer) From Nieuwskoppen 2002: http://www.gva.be/krantenkoppen/zoeken/9/deurganckdok.aspx?q=en_b2napk!az7trv0ou0-e6eq==&g=deurganckdok

Gimenez-Espin, J. A., Jimenez-Jimenez, D., & Martınez-Costa, M. (2013). Organizational culture for total quality management. *Total Quality Management* , 24 (6), 678-692.

Glasbergen, P. (1994). *Milieubeleid, een beleidswetenschappelijke inleiding*. Den Haag: VUGA.

Gudde, T. (2014). *Strategisch omgevingsmanagement* . Retrieved 02 2014 from Twynstra Gudde: http://www.twynstragudde.nl/expertise/strategisch-omgevingsmanagement

Hall, P. V. (2007). Seaports, Urban Sustainability, and Paradigm Shift. (T. S. Technology, Ed.) *Journal of Urban Technology* , 14 (2), 87-101.

Haven van Rotterdam. (2014). (H. R. N.V., Producer) From portofrotterdam: http://www.portofrotterdam.com/nl/Over-de-haven/haven-rotterdam/Pages/default.aspx

Havenbedrijf Rotterdam. (2011). *Havenvisie 2030, Port Compass*. Rotterdam: Havenbedrijf Rotterdam.

Havenbedrijf Rotterdam N.V. (2014). *Havensegmenten*. (H. R. N.V., Producer) From www.portofrotterdam.com: http://www.portofrotterdam.com/nl/Over-de-haven/havenkaarten/Pages/havensectoren.aspx

Havenbedrijf Rotterdam N.V. (2014). *Our company*. (H. R. N.V., Producer) From www.portofrotterdam.com: http://www.portofrotterdam.com/nl/Havenbedrijf/ons-bedrijf/Pages/default.aspx

Havenbedrijf Rotterdam. (2011). Wet- en regelgeving voor ruimte, natuur en mileu. In H. Rotterdam, *Havenvisie 2030 - Port Compass*. Rotterdam: Havenbedrijf Rotterdam.

Het Rekenhof. (2005). *VERSLAG over de aanleg van het Deurganckdok*. Verslag, het Rekenhof, Brussel.

Hoevenaars, F. (2014, 05 22). Interview - Previous Situation. (H. Engelsman, Interviewer)

(1980). In G. Hofstede, *Culture's Consequences: International Differences in Work-Related Values*. SAGE Publications.

(2001). In G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nation*. SAGE Publications.

Itim International. (2013). *Main Page*. (I. International, Producer, & Drupal) Retrieved 02 2014 from www.itim.org: http://www.itim.org/

Janicijevic, N. (2012). The Influence of Organizational Culture on Organizational Preferences Towards the Choice of Organizational Change Strategy. *Economic Annals* , LVII (193).

Janssen, A. (2014, 06 11). Interview - Current Situation. (H. Engelsman, Interviewer)

Janssens, G. (2014, 06 04). Interview - Current Situation. (H. Engelsman, Interviewer)

Janssens, G. (2014, 06 04). Interview - Previous Situation. (H. Engelsman, Interviewer)

Johnson, G. (1992). Managing Strategic Change - Strategy, Culture and Action. *Long Range Planning* , 25 (1), 28-36.

Kaasa, A., & Vadi, M. (2008). *How does culture contribute to innovation? Evidence from european countries*. University of Tartu, Faculty of Economics and Business Admimnistration, Tartu.

Kaspersma, J. M. (2013). *Competences in context - Knowledge and Capacity Development in Public Water Management in Indonesia and the Netherlands*. UNESCO-IHE Institute, Water Education, Delft.

Kleef, J. v. (2014 йил 13-05). Interview - Previous Situation. (H. Engelsman, Interviewer)

Kovačić, Z. J. (2005). The Impact of National Culture on Worldwide eGovernment Readiness . *Informing Science Journal* , 8.

Lifset, R., & Graedel, T. R. (2002). Industrial Ecology: Goals and definitions. In R. U. Ayres, & L. W. Ayres, *A Handbook of Industrial Ecology* (pp. 3-16). Northampton, MA, USA.

Lunenburg, F. C. (2012). Organizational Structure: Mintzberg's Framework. *International Journal of Scholarly, Academic, Intellectual Diversity* , 14 (1).

MacCoun, R. J. (1998). Biased in the interpretation and use of research results. *Annual Reviews Psychology* , 49, 259-287.

Maull, R., Brown, P., & Cliffe, R. (2001). Organisational culture and quality improvement. *International Journal of Operations and Production Management , 21* (3), 302-326.

Minkov, M., & Hofstede, G. (2012). Is National Culture a Meaningful Concept?: Cultural Values Delineate Homogeneous National Clusters of In-Country Regions. *Cross-Cultural Research , 46* (2), 133–159.

Mintzberg, H. (1983). Structure in fives: designing effective organizations. In H. Mintzberg, *Structure in fives: designing effective organizations.* Englewood Cliffs, New Jersey, USA: Prentice Hall Inc. .

Nieminen, L., Biermeier-Hanson, B., & Denison, D. (2013). Aligning leadership and organizational culture: The leader–culture fit framework for coaching organizational leaders. *Consulting Psychology Journal: Practice and Research , 65* (3), 177-198.

Niks, E. (2014, 05 22). Interview - Previous Situation. (H. Engelsman, Interviewer)

OCAI online. (2013). *Online meten van organisatiecultuur*. (O. online, Producer) From www.ocai-online.nl: http://www.ocai-online.nl/

Oosting, M. (2014, 05 29). Interview - Current Situation. (H. Engelsman, Interviewer)

Plas, R. v. (2014, 04 22). Introduction meeting - Port Authority of Rotterdam. (H. Engelsman, Interviewer)

PMV2. (2013). (H. R. N.V., Producer) From luchtfoto's van de aanleg: https://www.maasvlakte2.com/nl/index/show/id/316/Volg+de+voortgang+vanuit+de+lucht

PMV2. *Aanvraag vergunning ingevolge de Wet beheer Rijkswaterwerken.* Havenbedrijf Rotterdam N.V. Rotterdam: Projectorganisatie Maasvlakte 2.

PMV2. (n.d.). *Ecology - Nature Lost, Nature gained*. (Havenbedrijf Rotterdam N.V.) Retrieved 2013 from Maasvlakte2: https://www.maasvlakte2.com/nl/index/show/id/453/Ecology

PMV2. (2014). *Ecology*. Retrieved 2014 йил february from www.maasvlakte2.com: https://www.maasvlakte2.com/nl/index/show/id/453/Ecology

PMV2. (2006 йил 05). Newsletter 2. *3* . (PlatijnCasparle, Ed.) Rotterdam, Zuid Holland: Maasvlakte 2 Project Organization.

PMV2. (2004). *Nieuws 2004*. (H. R. N.V., Producer) From www.maasvlakte2.com: https://www.maasvlakte2.com/nl/news/index/year/2004

PMV2. (2005). *Nieuws 2005*. (Havenbedrijf Rotterdam N.V.) From www.maasvlakte2.com: https://www.maasvlakte2.com/nl/news/show/id/191

PMV2. (2006). *Nieuws 2006*. From www.maasvlakte2.com: https://www.maasvlakte2.com/nl/news/index/year/2006

PMV2. (2014). *Project*. (P. M. 2, Producer) From www.maasvlakte2.com: https://www.maasvlakte2.com/nl/index/show/id/23/Project

PMV2. (2014). *Samenhangend besturen*. (Port of Rotterdam) Retrieved 2014 йил 02 from www.maasvlakte2.com: https://www.maasvlakte2.com/nl/index/show/id/459/Samenhangend+besturen

PMV2. (2014). *Sustainability*. (P. M. 2, Producer) From www.maasvlakte2.com: https://www.maasvlakte2.com/en/index/show/id/188/Sustainability

PMV2. (2014). *Zorgvuldige besluitvorming*. (Havenbedrijf Rotterdam N.V.) Retrieved 2014 йил february from www.maasvlakte2.com: https://www.maasvlakte2.com/en/index/show/id/30

Port Authority of Antwerp. (2014, 07). *Het havengebied*. (P. A. Antwerp, Producer) From Port of Antwerp: http://www.portofantwerp.com/nl/het-havengebied

Port of Antwerp Authority. (2014). *History of the port*. (P. o. Authority, Producer) Retrieved July 2014 from Port of Antwerp: http://www.portofantwerp.com/en/history-port

Port of Antwerp Authority. (2014, july). *Ons ondernemersplan*. (P. o. Authority, Producer) From Port of Antwerp, Gemeentelijk Havenbedrijf: http://www.portofantwerp.com/nl/jobs/ons-ondernemingsplan

Port of Antwerp Authority. (2014). *Organogram*. Retrieved 02 2014 from Port of Antwerp: http://www.portofantwerp.com/nl/organogram-1

Port of Antwerp Authority. (2014). *Types of goods*. (Port Authority of Antwerp) Retrieved July 2014 from Port of Antwerp: http://www.portofantwerp.com/en/types-goods

Port of Antwerp. (2014). *Deurganckdoksluis*. (Port of Antwerp) Retrieved 2014 йил february from www.portofantwerp.com: http://www.portofantwerp.com/nl/search/content/deurganckdoksluis?page=1

Port of Antwerp. (2014). *Diensten en Informatie*. (P. o. Antwerp, Producer) From www.portofantwerp.com: http://www.portofantwerp.com/nl/my-poa/services/havenkaart

Port of Antwerp. (2014). *Port Organisation*. (P. o. Antwerp, Producer) From www.portofantwerp.com: http://www.portofantwerp.com/en/port-antwerp

Port of Rotterdam Authority. (2013, 11). *Perspectives , 2*.

Port of Rotterdam Authority. (2014). *Organisation*. (Smidswater and Macaw) Retrieved 02 2014 from www.portofrotterdam.com: http://www.portofrotterdam.com/en/Port-authority/organisation/Pages/default.aspx

Post, J. E., & Altman, B. W. (1994). Managing the Environmental Change Process: Barriers and Opportunities. *Journal of Organizational Change Management , 7* (4), 64-81.

Prajogo, D. I., & McDermott, C. M. (2005). The relationship between total quality management practices and organizational culture. *International Journal of Operations & Production Management , 25* (11), 1101-1122.

PSA Antwerp. (2014). *About PSA Antwerp.* From PSA-Antwerp: http://www.psa-antwerp.be/en/content/about-psa-antwerp

Rasula, J., Vuksic, V. B., & Indihar, M. (2012). The impact of knowledge management on organisational performance. *Economic and Business Review , 14* (2), 147-168.

Rotterdam Port Authority. (2014). *Rotterdam Wereldhaven.* (R. H. Authority, Producer) Retrieved 2014 йил february from www.portofrotterdam.com: http://www.portofrotterdam.com/nl/Over-de-haven/haven-rotterdam/Pages/default.aspx

Savolainen, T. (2007). Challenges of intercultural management: Change implementation in the context of national culture. *Going for Gold ~Best Practices in Ed. & Public , 07* (08).

Schein, E. (1984). Coming to a New Awareness of Organizational Culture. *Sloan Management Review , 25* (2).

Schein, E. (1996). Culture: The missing concept in organisation studies. *Administrative Science Quarterly , 41* (2), 229-240.

Schein, E. (1990). Organizational Culture. *American Psychologist Association , 45* (2), 109-119.

Schein, E. (1989). Organizational Culture and Leadership. In E. Schein, *Organizational Culture and Leadership.* San Francisco: Jossey-Bass Publishers.

Scott, T., Mannion, R., Davies, H., & Marhall, M. (2003). Methods The Quantitative Measurement of Organizational Culture in Health Care: A Review of the Available Instruments. *Health Services Research , 38* (3).

Siebenhuner, B., & Arnold, M. (2007). Organizational Learning to Manage Sustainable Development. *Business Strategy and the Environment , 16*, 339-353.

Stevens, H. (1997). *De institutionele positie van zeehavens.* Delft: Eburon.

Suderman, J. (2012). Using the Organizational Cultural Assessment (OCAI) as a Tool for New Team Development. *Journal of Practical Consulting , 4* (1), 52-58.

Technostructure, (. (2014, 05 29). Interview - Current Situation. (H. Engelsman, Interviewer)

Tessier, T. (2014, 06 05). Interview - Current Situation. (H. Engelsman, Interviewer)

Tessier, T. (2014, 06 05). Interview - Previous Situation. (H. Engelsman, Interviewer)

Tessier, T., & Janssens, G. (2014, 04 25). Introduction meeting - Port Authority of Antwerp. (H. Engelsman, Interviewer)

The Hofstede Centre. (2014). *Cultural Tools - Country Comparison - Netherlands.* (G. Hofstede, Producer) Retrieved 02 2014 from www.geert-hofstede.com: http://geert-hofstede.com/netherlands.html

The Hofstede Centre. (2014). *Organisational Culture & change management.* (T. H. Centre, Producer) Retrieved 03 2014 from www.geert-hofstede.com: http://geert-hofstede.com/organisational-culture.html

The Hofstede Centre. (2014). *Organisational Culture & Change Management.* (T. H. Centre, Producer) Retrieved 03 2014 from The Hofstede Centre: http://geert-hofstede.com/organisational-culture.html

Vellinga, T. (2014 йил 16-04). Interview - Previous situation. (H. Engelsman, Interviewer)

Verlaeckt, L. (2014, 06 05). *Interview - Current Situation.* (H. Engelsman, Interviewer)

Vlaams Parlement. (2012, 05). (tco frpar) Retrieved 02 2014 from Deurganckdok: http://www.vlaamsparlement.be/Proteus5/advancedZoek.action?searchString=deurganckdok

(2010). In M. Wesslink, R. Paul, & E. Willemsen (Ed.), *Handboek Strategisch Omgevings Management.* Deventer: Kluwer.

Weststrate, J.-W. (2014, 05 15). Interview - Current Situation. (H. Engelsman, Interviewer)

Weststrate, J.-W. (2014, 05 15). Interview - Previous Situation. (H. Engelsman, Interviewer)

Appendices

A. Examples of environmental awareness increase in the Port of Rotterdam & of Antwerp

Several initiatives have been taken in the Ports of Rotterdam and Antwerp that represent their increase in environmental awareness.

Port of Rotterdam

The Rotterdam Port Authority integrated sustainability clearly in their focus. To the Authority, sustainability means 'future-proof', referring to that today's investments must not be at the cost of future generations. They believe that sustainability always comes down to the balance between the dimensions of ecology, economy and sociology.
The Port Authority aims to reduce CO_2 emissions, to integrate more sustainable energy resources in the port and to have a strong focus for sustainability and environment during the realization of MV2 project. (Rotterdam Port Authority, 2014)

Integration of sustainable energy resources the Port Authority aims to switch from oil and coal, that currently form the basis of the main part of the industrial cluster in the port, to a significant share of new sources of energy such as liquid natural gas (LNG) and biomass. Since European demand for LNG is increasing, recently the first LNG terminal is opened within the port. Also, the Port Authority wants to attract other new, clean sources of energy to the port, from which biomass is the main focus. Already a substantial number of companies in the port invests in trans shipment and production capacity for biofuels. The Port Authority aims to enable companies to operate as energy-efficient as possible, to make fossil energy 'cleaner', to tap into new sources of energy and to significantly reduce CO_2 emissions. The Port Authority is involved with research and pilots to clarify the opportunities for the underground storage of CO_2 and hopes to halve their CO_2 emissions by 2025.

How the Port Authority actually practices their focus for sustainability seems to be mostly represented along the MV2 project, which is located in a protected nature area, the Voordelta. The Port Authority states that they aim to spare local nature during the construction and development of he industrial area, but also confess that the realization of this industrial area will obviously have a certain impact on the local species.
During all phases of the MV2 project and subprojects, sustainability is taken into account via a sustainable design, sustainable construction and sustainable operation. A sustainable design should lead to minimal effects on the North Sea. Sustainable construction is done by choosing for resources located closely to where they are needed in order to safe energy needed for transport. Sustainable operation refers to companies who have to optimize the use of their residual heat and waste products. Also the Port Authority obliges the companies to increase transport by train and inland shipping instead of by truck. (PMV2, 2014)
In 2005 a clear switch took place in the port policy regarding the selection of customers to be positioned on the new MV2 area. The port from then on seeks for customers who exploit their container terminal in a sustainable way, meaning that during selection the focus is not only on financial efficiency but also on environmental aspects. (PMV2, 2005) The Port Authority of Rotterdam sees this as a clear focus shift in their policy. Sustainable development from then on got a substantial spot in their assessment framework. Their motivation is two sided; anticipating on the strict environmental policies in the Netherlands and taking the responsibility for the environment in which they operate. (PMV2, 2005)

An example of an industrial ecologic initiative is the industrial ecology project INES Mainport 1999–2002 in which resources use is optimized via industrial symbiosis, the so called "Happy Shrimp Farm" in which waste heat was being reused (Baas L. , 2008) and unfortunately turned bankrupted in 2009 due to business strategy failure, an increasing use of renewable energy sources.

Port of Antwerp

The Port Authority of Antwerp has also clearly integrated a sustainable focus, which they practice in form of nature conservation, in form of improving air, energy and climate related issues and in form of different port dues for seagoing ships and barges.

Regarding nature conservation, the Port Authority stresses the dominant focus within their sustainable strategy for protection of the environment around the Scheldt River. The port signed a cooperation agreement with 'Natuurpunt', a nature association spreading the nature conservation thought. With the collaboration between Natuurpunt and the Antwerp Port Authority, both organisations aim to manage the rich variety of flora and fauna in the Antwerp port area. The Species Protection Plan (SP Plan) was set up to sustainably maintain protected and non-protected species over the port area as a whole, so not specific sites or puclicly-owned areas. The plan has been approved by Flemish government and has been implemented. This plan enables the Port of Antwerp to grant exemptions from the various protection and prohibition measures in the Species decree. Natuurpunt states that the collaboration between all port actors, the Flemish public administration and the scientific world is exemplary for all West-European ports in they way how conflicting interests regarding ecological and port developments are reconciling.

Regarding air, energy and climate issues, the Antwerp Port Authority initiated the Particulates Action Plan that provided subsidies for port companies to reduce emissions of particulates NOx and SOx. In this Action Plan the Port Authority selected five projects with which a contract was signed. Furthermore, the Port Authority allocated solar panels on five of its buildings, which should achieve energy supply coverage of the Port Authority's own consumption per day. In 2012 the Port Authority obtained the Environmental Charter Certificate thanks to the practical improvements in their work environment. In the recent years, the Port Authority also investigated the possibilities and feasibility of introducing a biomass-fired power station in the port.

Regarding the different port dues for seagoing ships and barges, the Port Authority implemented the International standard for the safe management and operation of ships and for pollution prevention (ISM). They carry out their aim to increase air and soil quality by rewarding clean ships, by proper waste-stream management and the efforts of companies to reduce their emissions of pollutants and increase their use of renewable energy sources. (Antwerp Harbour Authority, 2014)
Furthermore, the Port Authority's Environment Coordinator examines contract specifications and products in order to provide advice for sustainable changes and also provides support and advice for the purchase of new industrial equipment. (Gemeentelijk Havenbedrijf Antwerpen, 2014)

B. Elaborations regarding the literature study

B.1 Investigating national culture

The national culture can be described as the collective programming of the mind that distinguishes the people in one country from the people of another country. (The Hofstede Centre, 2014) As explained in the introduction, in this research the assumption is made that national culture remained constant, so did not experience significant change along the previous years from the moment onwards that internal changes happened within both Port Authorities.

The national culture characteristics of Flemish and Dutch people can be explaining for certain outcomes of this research or can be determining for the best approach to be taken during collaboration with both Port Authorities. Therefore, national culture is important to be taken into account during tackling the sub questions Q2 until Q5. For example, a different national culture characteristics in Flanders can ask for a different best way of approaching and interviewing the people from which the results will be gained, than in The Netherlands.

The Hofstede Centre (2014) provides a simple and user-friendly tool that gives a comparable overview for a number of countries over the world from which they investigated national culture. It distinguishes six cultural dimensions on which each measured nationality has a certain relative score. These dimensions are:

- Power Distance (PDI)
  This dimension refers to how a certain society handles power inequalities. It expresses how the less powerful members of society accept power inequalities and expect power to be distributed unequally. It seems that people who exhibit a high degree of power distance, accept without any justification a hierarchical order in which everybody has a certain position. People who exhibit a low degree of power distance aim to equalise the distribution of power and claim justification for inequalities.

- Individualism versus Collectivism (IDV)
  This dimension tells a national culture to be rather characterized by individualists or by collectivists. Individualism refers to the preference of having a flexible and loose framework in which individuals are expected to take care of themselves and their families. Collectivism refers to a close framework in society in which it is expected to look after each other and to exchange unquestioning loyalty. Whether a society is characterized more by individualism or more by collectivism can be based on whether people within the organisation have an "I" or a "we" self-image.

- Masculinity versus Femininity (MAS)
  This dimension positions a country in the range between the contrasts masculinity and femininity. Masculinity represents people in the society who find it important to achieve goals, to show heroism, to be assertive and often give material rewards for successes. The opposite, feminists, refers to people who prefer to cooperate, to be modest and caring for the weak and for quality of life. Feministic societies are characterized of aiming for consensus.

- Uncertainty Avoidance (UAI)
  This dimension tells how a national culture is characterized regarding the degree to which the members of society feel uncomforTable with uncertainty. It tells how a society deals with the fact that future can never be fully known. Where one society tries to control the future as much as possible, another just let it happen as it comes. Countries that tend to highly avoid uncertainty hold on to codes of belief and behaviour and do not handle unorthodox behaviour and ideas well. Countries that do not tend to avoid uncertainty have a more relaxed attitude in which practice counts more than principles.

- Pragmatic versus Normative (PRA)
  This dimension positions a country within the range of being rather pragmatic or rather normative. A pragmatic society is understood as a society with people who mostly do not have the need to explain everything. They believe that it is rather impossible to fully understand complexity of life and that it is important to live a virtuous life instead of aiming to know the exact truth; in their eyes the truth depends on situation, context and time, meaning that traditions are easily adapted to changes conditions. A normative society typically consists of people who have a strong desire to explain as much as possible and to establish the

absolute truth. Those people aim to maintain traditions, hardly tend to anticipate on future changes and focus on achieving quick results.
- Indulgence versus Restraint (IND)
  This dimension refers to the extent to which a country can be characterized by people who are indulgent, or people who are rather restraint. An indulgent society consists of people who allow free manner of satisfaction of basic and natural human drives related to enjoying life and having fun. In contrast, a restraint society consists of people who have strict social norms in order to suppress the gratification of needs.

Describing national culture via these six dimensions is widely done in comparative studies that focus on international business functioning and business strategy differences. (Builtjens & Noorderhaven) (Hofstede, Culture's Consequences: International Differences in Work-Related Values, 1980) (Hofstede, Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nation, 2001) (Prajogo & McDermott, 2005) Also, it is used in studies that focus on improvement or understanding of management and planning. Studies also investigate or predict the readiness of organisations or countries for innovation, for new strategies or for example new technology implementations. (Kovačić, 2005) (Savolainen, 2007) (Kaasa & Vadi, 2008) Shortly said, the tool from The Hofstede Centre is widely used for purposes that match this research and suitable for a study in which two cases in different countries come into play. The tool provides an overview of the scores of The Netherlands and Belgium and regarding Belgium also makes a distinction between the independent states Flanders and Walloon when a certain dimension significantly differs between them.

The researcher Geert Hofstede, who is the initiator of The Hofstede Centre, criticized the meaning of defining 'national culture' regarding the country's internal cultural differences. He performed a research in order to know whether internal cultural differences compromise the meaning of defining culture on a national level. His study seemed to refute the critical arguments against the concept of national culture. This means that notwithstanding the fact that significant internal cultural differences within a country exist, in-country regions tend to follow national lines when basic cultural values are compared. (The Hofstede Centre, 2014)

The data needed in order to investigate national culture are available within the Hofstede database provided via The Hofstede Centre website. This can be considered as beneficial because investigation of the national culture can be easily done before entering the Port Authorities. The researcher can prepare him/herself this way regarding the national culture differences between both Port Authorities and regarding how to approach and interpret the answers of interviewees.

B.2 Investigating organisational structure

Notwithstanding the fact that this type of organisational structure does not lay in the focus of this research, it is briefly touched upon in order to provide a view on what organisational structure means on different levels. Then will be continued with elaboration on organisational structure within an organisation including a method by which this structure can be typified regarding the present and the past. After will be elaborated on the hierarchical organisational structure visualized via the organograms that both Port Authorities openly share.

Organisational structure between state and market

Stevens (1997) focuses on the control mechanisms between state and market, which represent how decision-making is managed. He states that governmental bodies can manifest themselves in different positions and rolls and that they can control the organisation's activities with different control relationships. Those control relationships can be practiced in different interrelating levels of abstraction. In his study, 'control' refers to how accountability of a certain seaport is regulated to the state. These control relationships are the organisational structure between state and market.

Organisational structure within an organisation

Mintzberg (1983) is a researcher who focuses on organisational structure that represents the internal configuration of a certain organisation. He distinguishes five types of structural configurations that an organisation, such as a Harbour Authority, can be characterized with. By which type a certain organisation can be characterized, is determined by the strategy an organisation adopts and the way it practices that strategy along the three dimensions over which an organisation can be differentiated. These dimensions are the organisations' key part, the prime coordinating mechanism and the type of decentralization used.

The key parts of which the organisation exists are the following:
- The 'strategic apex', meaning the top management and its support staff
- The 'middle line', meaning the middle- and lower-level management
- The 'technostructure', meaning the analysts such as engineers and accountants
- The 'support staff', meaning the people who provide indirect services such as foodservices and legal counsel
- The 'operative core', meaning the workers who actually carry out the organisation's tasks

Figure 21 shows an schetch of the Mintzberg model, containing the five elements plus the 'ideology' that spans the totality of these elements.
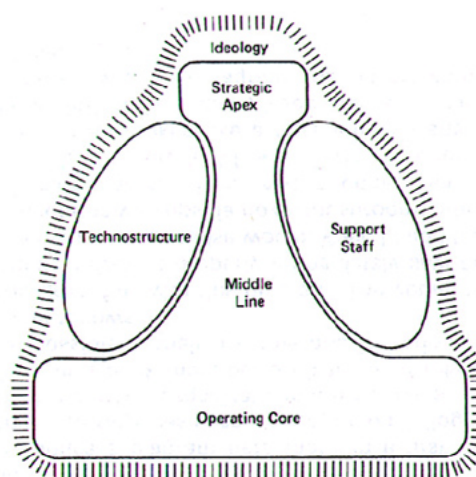
Figure 21 - The five elements (+ ideology) of organisational structure (Mintzberg, 1983)

From these key parts should be determined what position each has within the organisation and which one is the most relevant for the actual performance of it. (Lunenburg, 2012)

The different coordinating mechanisms are the following:
- 'Direct supervision', meaning that one individual is responsible for the work of others
- 'Standardization of work process', meaning that the content of work is specified or programmed
- 'Standardization of skills', meaning when a kind of training is necessary in order to perform the work
- 'Standardization of output', meaning when results of the work are specified
- 'Mutual adjustment', meaning when work is coordinated through informal communication

From these five alternatives of coordinating mechanisms should be determined which one is the best match with the organisation. (Lunenburg, 2012)

Then, according to Mintzberg (1983) there are five distinguishable types of decentralization from which the best match should be determined as well. These five types are the following:
- Vertical and horizontal centralisation (Decision-making power is mainly in hands of one person; the head of the company. This head owns formal as well as informal power and takes all important decisions alone and coordinates the execution of them by means of direct supervision)
- Limited horizontal decentralisation (centralized in vertical direction, the formal power is concentrated in the higher regions of hierarchical line, especially the strategic top)

- Limited vertical decentralisation (the organisation is devided in market units or divisions, managers have a large amount of formal decision-making power with respect to the division they manage)
- Selective vertical and horizontal decentralisation (delegation of decision-making power to different units within the organisation to for example improve service to clients or users. Decision-making power is delegated in vertical direction for different kinds of decisions to multiple levels in hierarchy, in horizontal direction is made use of staff expertise)
- Vertical and horizontal decentralisation (decision-making power is mainly concentrated in the operating core, because it excists of the professionals. Coordination of their work is mainly coordinated by standardization of skills)

A visualisation of these types of decentralisation can be found in Figure 22.
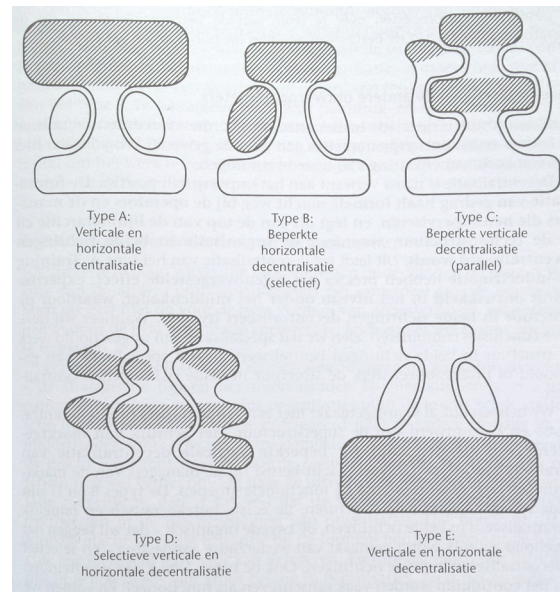
Figure 22 - Visualisations of the five different types of decentralisation (Mintzberg, 1983)

Combination of the determined positions of the key parts, prime coordinating mechanism and type of decentralization, together lead to one of the five extremes of distinguished organisational structure types to which the organisation in case comes most close to. Table 5 shows which combinations lead to which structural configuration.

Table 5 - The five types of organisational structure in relation to the three dimensions of an organisation (Lunenburg, 2012)(Mintzberg, 1983)

Dominant Key Part of Organisation	Prime Coordinating Mechanism	Type of Decentralization		Structural Configuration
Strategic Apex	Direct supervision	Vertical and horizontal centralization	→	Simple Structure
Techno structure	Standardization of work processes	Limited horizontal decentralization	→	Machine Bureaucracy
Operating core	Standardization of skills	Vertical and horizontal decentralization	→	Professional Bureaucracy
Middle line	Standardization of outputs	Limited vertical decentralization	→	Divisionalized form
Support staff	Mutual adjustment	Selective decentralization	→	Adhocracy

A description of the five cornerstone types are given below:

- Simple Structure
  The Simple Structure refers to an organisation that in practice can be characterized as complex. It has hardly any Technostructure and a limited Support Staff. It has a loose division of labor, meaning that employees perform overlapping tasks, a limited differentiation between units/departments and a small hierarchy of managers. This structure hardly has any formalized

behaviour and hardly makes use of planning, training and binding means. A simple structure is an organic structure.

- Machine Bureaucracy

The Machine Bureaucracy refers to an organisation that performs strongly specialized routine work. The Technostructure and the Support Staff are large elements in the organisation. It has strong formalized procedures in the Operating Core. Large-scale units represent the Operating Core. Also it is characterized as having an overload of rules, regulations and formalized communication throughout the entire organisation. There is a high degree of formalization and work specialization. Tasks are clearly grouped on functional basis. Decision-making power is relatively centralized and the relatively comprehensive management structure shows clear distinction between line and staff.

- Professional Bureaucracy

The power of a Professional Bureaucracy is emphasized on the skills and professionality, instead of for example position within the market. It has a high number of specialists/professionals.

In the Professional Bureaucracy decision-making power is decentralized. This is to provide autonomy to specialists/professionals who are highly trained, indoctrinized and provide non-routine services to clients. These specialists/professionals belong to the Operating Core and achieve a relatively high amount of control-power regarding their work. This makes them relatively independent of their collegues, and higly collaborative with their clients.

In contrast to the relatively autonomous Operating Core, the structure of a Professional Bureaucracy is bureaucratic and formalized, in the sense that the way of coordination is based on the design and norms which preliminary determine what will happen. The norms are developed mainly outside the organisational structure by independent organisations to which the organisation in case belongs together with other organisations in the field. The independent organisations define the universal norms.

The Support Staff is relatively large in order to provide the administrative or maintenance support for the specialists/professionals. The Strategic Apex and the Middle Management are relatively small and the Technostructure is represented by the specialists/professionals located in the Operating Core. In the professional bureaucracy, work is strongly specialized in horizontal direction and covers a larger area of activities in vertical direction.

- Divisionalized form

A divisionalized structure is a collection of quasi-autonomous elements that are interconnected by a central management structure. These loosely bound elements are units in the Middle Management, often named as divisions. Decision-making power is decentralized at the divisional level. Each division is relatively centralized and tends to resemble Machine Bureaucracy. The Technostructure is located close to each division to provide the service and the Support Staff is located within each division. Little coordination exists among the separate divisions.

The central management structure refers to the head quarters of the organisation. Power is top-down organised.

The divisionalized structure is not a structure that covers the complete organisation (from the strategic top till the operating core), but a structure that is additional to other structures. The divisionalized structure focuses on the structural relationship between the Strategic Apex and the Middle Management. Large corporations are likely to adopt the divisionalized form of organisational structure.

- Adhocracy form

This structural configuration brings experts of different disciplines together in smooth functioning ad-hoc project teams. The primary goal is innovation and rapid adaptation to changing environments. The organisation represents an organic structure with hardly any formalized behaviour. This structure has a high level of horizontal task specialization based on formal training. It performs non-routine tasks and uses high-level technology.

The Technostructure is relatively small because the technical specialists are involved in the Operating Core and the Support Staff is relatively large in order to support the complex structure. Due to administrative reasons, specialists are placed in functional units while doing their work in small, market-oriented project teams. Connecting means are important to stimulate Mutual Adjustment among the teams. Decision-making power is selectively decentralized towards these teams who operate on various places within the organisation and in various compositions.

Decision-making power is distributed over managers and non-managers on all levels of hierarchy, matching the nature of the decisions to be taken.

So the Adhocracy Form refers to a structure in which formalization and decentralisation is low. This structure is mostly seen in medium sized organisations.

(Lunenburg, 2012)(Mintzberg, 1983)

Together these cornerstone types form the option-field of different organisational structure configurations in which the organisation can be positioned.

Mintzberg's five organisational structure types are formulated under the condition of believing that such structure configurations mainly concern large and mature organisations in specifically the 'second development stage' (Chapter 6 of Mintzberg book) This is an argument for the use of this method for the typification of organisational culture of both port authorities, since the port authorities are both large and mature organisations.

From literature study it seems that Mintzberg's organisational structure types are well known within the research field of social sciences, decision sciences and studies focusing on knowledge and capacity development. In the work of Kaspersma (2013), Mintzberg's organisational structure method was part of a research that focused on the role of formal organisational structure in knowledge and capacity development. With the Mintzberg method, she describes the formal organisational structure and formal rules and also the actual behaviour in relation to this formal structure. The method was used to typify a public water management organisation, followed by an investigation about the extent to which the organisation adopted a more organic structure when strategy had to change regarding water resource management integration and climate change.

Kaspersma concludes her research with a number of recommendations on how to improve the alignment of the public water management organisation to the present day challenges.

The research of Kaspersma represents a suitable application of Mintzberg's organisational structure to a case in which the readiness is investigated of an industrial organisation that undergoes a change in strategy. This resembles the case investigation of this research, since the partial aim is to investigate the readiness of the Port Authorities for the realization of port development projects. This provides an argument for application of Mintzberg's method in order to answer the organisational structure related questions of this research. The partial goal of this research is that the results could be clarifying for the Port Authorities of Rotterdam and Antwerp regarding their current readiness for successful progress of port development projects.

A general benefit of integrating Mintzberg's method for the investigation of organisational structure of both Port Authorities is that the investigation can be done parallel to other steps done in this research and within the approximate available time planned for this research. Gaining information about who represent the key parts of the Port Authorities in the past and nowadays and by what prime coordinating mechanism and type of decentralization the Port Authorities can be characterized, is includable in the interview sessions for Q2. Another benefit of the Mintzberg's method is that current and previous organisational structure can be investigated with this method, since the typification is done via information that can be gained from current employees within the Port Authorities. Also this method provides the results in a clear format, which makes the results easy to communicate to the participants. A final argument for using this method is that the Mintzberg distinguished the organisational configuration types under the assumption that they mainly concern large and mature organisations. The Port Authorities of Rotterdam and Antwerp are in this research understood as being large and mature organisations.

Organogram

From both Port Authorities an organogram is publicly available, which should clarify the organisational structure to the public. So these organograms are a graphical reproduction of the organisational structure, however they do not seem to be a complete representation of what really goes on within an organisation according to many organisation scientists. (Mintzberg, 1983) It seems that in each organisations important power and communication relationships exits that are invisible in the organogram and usually even are not written down. (Mintzberg, 1983) So the organogram does not show the invisible power and communication relationships, however it does give a clear overview of the different functions, how they are grouped and

how the formal authority structure looks like. So when investigating the previous and current organisational structure, the organogram can be taken as a starting point in order to understand the basics of the organisational structure. Combining the knowledge gained from the organogram together with typifying the organisation's structure with Mintzberg's structure configurations, should then give a sufficient overview of the organisational structure.

B.3 Investigating organisational culture

Taking bias into account

An important common phenomenon that should be taken into account during this research is bias. (MacCoun, 1998) The bias phenomenon can be the case via many reasons that relate to the skills, context and interpretation of the interviewer, the interviewees and maybe even the reader of this report. The answers that interviewees give and the interpretation of the results by the researcher can be biased due to their culture, previous experiences and knowledge or due to other personal beliefs and understandings. Regarding the researcher, bias could influence the level of objectiveness during observation and interpretation steps. Interviewee's answers could be coloured when he or she for example tends to give the favourable answers regarding his or her position within the organisation or, when investigating the previous organisational structure and -culture, tends to give answers from a present point of view and not fully being able to imagine the previous situation.

So bias can cause coloured results both due to the interviewee and the researcher, meaning that for both bias will be taken into account during this research. The more biased the answers are does not mean that their value decreases. Important is that the researcher should take it into account during the interpretation of the results and in the same time be aware of his or her own bias. However the biases are often subtle and small in magnitude (MacCoun, 1998). This makes bias a challenge to notify, but on the other hand it means that it is not common that the researcher or the research consumers will show a great variety in how they interpret the research data. (MacCoun, 1998)

Steps within the research that ask for a higher amount of personal interpretation could be understood as being more sensitive for bias. Examples of such steps are when collecting data via the interviews and when interpreting the research results in order to draw conclusions. The phenomenon of bias is consciously brought up parallel to organisational culture, because the data to be collected in order to identify the organisational culture are relatively sensitive to the personal experiences of the interviewees and relatively abstract. With organisational structure, the data to be collected are more concrete and less determined by personal experiences or interpretations.

Regarding the sensitivity for bias, when comparing the options within the collection of methods for the identification of organisational culture, it is favourable to choose one that has a clear structured procedure and format for the results. This will minimize the interpretation flexibility of the interviewee and researcher and will provide guidance through the method steps and the understanding of the results. This way, the aim is anticipate on the bias phenomenon.

Johnson (1992) – The 'Cultural Web' of an organisation

Johnson is a researcher who proposes ways to consider sorts of managerial change processes in terms of culture that can help achieve strategic change in organisations. A number of explanatory frameworks are developed that address the links between development of strategy in organisations, dimensions of corporate culture and managerial action. Johnson (1992) assumes that managers of an organisation have a core set of beliefs and assumptions which fashion an organisation's view of itself and its environment. The key constructs of this paradigm are associated with the most powerful managerial people in the organisation.

This paradigm, as Johnson calls it, lies within the cultural web of an organisation and influences the activities of the organisation in multiple facets. Therefore, according to Johnson, it seems that organisational culture is continually and gradually evolving.

A visualization of the cultural web can be found in Figure 23. The cultural web provides an overview of the organisational elements and the organisational paradigm, which influence each other. Johnson's purpose of this overview is to be able to discover the nature of an organisation in cultural terms, how this

organisational culture impacts the strategy they are following and what difficulties can emerge when changing this strategy. The organisational culture is formulated via describing by how and by what activities each of the organisational elements are represented within the organisation in case. Based on this overview, possible causes for resistance to change can be identified.

This method can thus be described as by which the impact can be investigated of the organisational culture within an organisation. The model can be used if the researcher wants to investigate the organisational culture in a qualitative way, since the organisational culture and its impact is not profiled by scores but by descriptions.

Johnson (1992) describes the mentality of the management (the paradigm) as core of the organisational culture and understands the organisation in case as a totality of directly observable elements and activities. This matches the way in which organisational culture is being understood in this research, namely the surface layer of culture referring to organisational practices and artefacts. However, the research of Johnson (1992) focuses on the impact of organisational culture instead of actually describing or labelling it. Describing or labelling the organisational culture is favourable because then the previous and present situation can be clearly compared.

Figure 23 shows a visualization of the 'Cultural Web' that describes the culture of a certain organisation according to Johnson (1992). The paradigm refers to managers of an organisation who have a core set of beliefs and assumptions which fashion an organisation's view of itself and its environment.
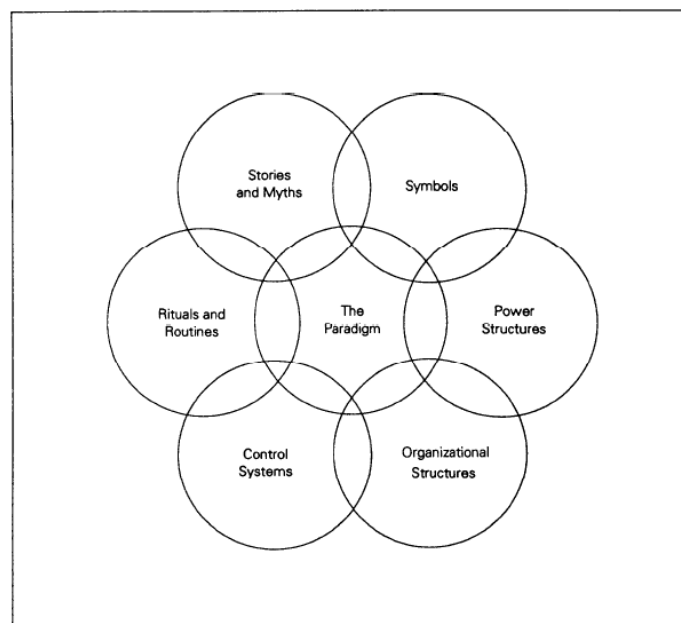
Figure 23 - The 'Cultural Web' of an organisation (Johnson, 1992)

However, the Cultural Web developed by Johnson (1992) will not be taken as tool to investigate organisational culture of both Port Authorities. Regarding the perception of the other three methods, this method is exceptional in assuming that the core of organisational culture lies within the management level. Because of the uncertainty about whether this assumption should be made since the other three methods are not specifically developed under this assumption, within this research it is preferred to choose one of the methods in which the core of the organisational culture is not believed to be specifically in the management level. The other reason why this method will not be involved in the methodological framework, is that it seeks for data that will tell something about the impact of organisational culture, instead of describing it.

Cameron & Quinn (2006) – The four types of culture

Cameron & Quinn (2006) provide a step-by-step working plan in order to score an organisation on six cultural dimensions and construct an organisational culture profile from these scores.

First, they stress the need for management of organisational culture, since the success of a firm depends strongly on the organisational culture. They believe that sustained success seems to be rather dependant on company values, personal beliefs of organisation's members and with the organisations visions, than on market forces, competitive positioning and resource advantages. And in order to be able to manage organisational culture, they first introduce an instrument for diagnosing it, called the Organisational Culture Assessment Instrument (OCAI). The purpose of this instrument is to assess a composed set of six defined key dimensions of organisational culture that determine the dominant orientation of an organisation. These six dimensions are dominant characteristics, organisational leadership, management of employees, organisation glue, strategic emphases and criteria of success. When investigating a certain organisation, all six dimensions can be scored and plotted in an organisational culture profile template. This plot then serves as an organisational culture profile, being one of the four organisational culture types that Cameron & Quinn distinguish. These four types are a 'Clan Culture', an 'Adhoctratic Culture', a 'Market Culture' and a 'Hierarchical Culture'. The culture profile template is shown in Figure 24.
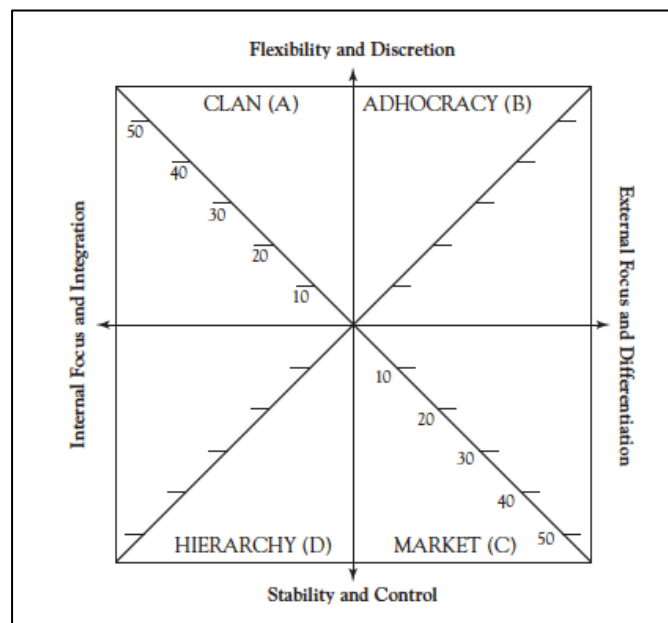
Figure 24 - Organisational Culture Profile Template
(Cameron & Quinn, Diagnosing and Changing Organizational Culture, 2006)

A brief description of the four organisational culture types are:
- Clan culture
  The Clan Culture represents a family-type organisation in which people have shared values and goals, cohesion, participativeness, individuality and a strong 'we'-feeling. Such an organisation seems more similar to extended families rather than economic entities.
  Instead of rules, standardized procedures or competitiveness, in such organisations teamwork, employee involvement programs and corporate commitment are very likely. Clan Culture is based on flexibility and internal focus.
  Some basic assumptions are that environment can best be managed through teamwork and employee development and that customers are best thought of as partners.
  Leaders are like mentors and have the role to empower employees and facilitate their participation, commitment and loyalty.
  The Clain Culture is typified as being a friendly work place were people share a lot of themselves. The binding factor is loyalty and tradition and high commitment towards the organisation.
  The long-term emphasis is on the benefits of individual development with high cohesion and morality.
- Adhocratic culture
  The Adhocratic Culture fits an organisation that is very responsive to extremely dynamic environmental conditions. Such an organisation assumes that innovativeness and pioneering

initiatives are keys to success. It is believed that innovativeness and adaptation lead to new resources and profitability. The management has the role to foster entrepreneurship, creativity and activity "on the cutting edge". Emphasis is placed on creating a vision of the future with a disciplined imagination.

Most people work on an ad-hoc task force, which disbands as soon as the task is completed. Organisations with an Adhocracy Culture are flexible in the sense that they work with temporary structures for every project. Mostly in large organisations, some adhocratic sub-units seem to have a dominant culture of a different type.

The Adhocracy Culture can be described as dynamic, entrepreneurial and a creative workspace. People stick their necks out and take risks.

A visionary, innovative and risk-oriented leadership is most effective for the organisation with an Adhocratic Culture. The binding factor within the organisation is commitment to experimentation and innovation. Readiness for change and meeting new challenges are important.

Long-term emphasis is on rapid growth and acquiring new resources.

- Market culture

The Market Culture fits an organisation that faces new competitive challenges. 'Market' refers not to the marketing function or with consumers in the marketplace, but to a type of organisation that functions as a market itself. It is oriented towards the external environment instead of internal affairs. Profitability, bottom-line results, strength in market niches, stretch targets and secure customer bases are primary objectives of the organisation. Dominant core-values are competitiveness and productivity, achieved through strong emphasis on external positioning and control. The external environement is assumed to be not benign but hostile.

The major task of the management is to drive the organisation towards productivity, results and profits. Leadership is represented by tough and demanding leaders who are hard-driving producers and competitors. The Market Culture can be associated as a results-oriented workplace with clear purposes and aggressive strategies. The binding factor that holds the organisation together is an emphasis on winning. Stability and control is used to achieve goals of internal and external competitiveness and productivity.

Long-term concerns of the organisation with a Market Culture are on competing actions and the achievement of stretch goals and targets.

- Hierarchical culture

A culture inspired on bureaucracy with rules, specialization, meritocracy, hierarchy, separate ownership, impersonality and accountability to generate efficient, reliable, smooth-flowing, predictable output. Because the environment of such a bureaucracy is relatively stable, tasks and functions can be integrated and coordinated. Uniformity in products and services is maintained and workers and jobs are under control. Such a bureaucracy has clear lines of decision-making authority, standardized rules and procedures; control and accountability mechanisms are valued as keys to success.

The Hierarchical Culture is compatible to this bureaucratic organisational form. It is characterized by formalized and structured place to work and standardized procedures govern what people do. It is based on stability and control along with an internal focus.

A leadership characterized as good coordinators and organizers are effective. Maintaining a smooth running organisation is important. Formal rules and policies with the objective of achieving efficiency and standardization of work processes and outputs hold the organisation together.

Long-term concerns of an organisation with a hierarchical culture are stability, predictability and efficiency.

(Cameron & Quinn, Diagnosing and Changing Organizational Culture, 2006)

This method can thus be described as one by which the culture of an organisation can be scored and typified. The method transforms the qualitative descriptions of the organisational culture dimensions into quantitative data by the coding of the four alternatives of the six dimensions. By dividing 100 points on the four alternatives (A, B, C and D) for each of the six dimensions and then adding up and calculating the average amount of points for each alternative, the plot can be made on each of the axes by which the culture profile is created. This profile shows the balance between the four distinguished types of organisational culture that represents the organisational culture. Figure 24 shows the template on which

the scores of the four alternatives can be plotted.

The method is well known and used by consultants and within the organisations that aim to advice management and help to understand your organisation. (Suderman, 2012) (Ask Advice & Consultancy, 2010) The OCAI method is also provided via an online website on which you can easily score your organisation on the six dimensions after which those scores are plotted and the type of organisational culture comes out as a final result. (OCAI online, 2013)

By first letting members of the organisation score the six dimensions as the current organisation and then score the six dimensions describing the ideal organisation, two independent ratings on the six dimensions are achieved that lead to a certain type of organisational culture profile via the Competing Values Framework. The consultant and organisation then use these two culture profiles to initiate a culture change strategy for development towards the favoured future organisation. It is also possible to plot the six dimensions individually in case the aim is to compare individual dimensions with each other on how they are balanced between the four types of organisational culture.

When using the OCAI method within this research, instead of scoring the six dimensions on the 'current' and on 'preferred' future organisational culture, the six dimensions can be scored on how the organisation is 'currently' and how it was in the 'past'. The organisational culture of the past that seemed to be effective for successful continuation of the DGD and MV2 project is then assumed as being representative for a 'preferred' organisation. Then, by comparing this 'preferred' organisation of the past with how the 'current' organisation is, the researcher can clarify to what extent the preferred organisation differs from how the current organisation can be characterised regarding the organisation's culture profile. These differences show to what extent the preferred organisational culture is maintained, from which can be concluded what the Port Authorities have learned from the past. In order to achieve a more detailed analysis of what the port authorities learned from the past, the six dimensions can be plotted and compared individually.

A benefit of this method is that investigation of previous and of current organisational culture can be done with a sequence of clear steps. Direct knowledge of people within the Port Authority is the source of data needed to come to a cultural typification of the current and the previous situation.

Furthermore, the interview results and the comparison between previous and present will be clearly communicable to the people involved in the research, since this method provides a structured and clear organisational culture scoring template. This characteristic also contributes to the prevention of the bias phenomenon.

Hofstede (2014) – Organisational culture

Apart from a tool to investigate national culture, The Hofstede Centre also developed one to investigate organisational culture. The Hofstede Centre believes that organisational culture can be identified on a different level than national culture and therefore state that the two models they developed describe different layers of our reality. According to the results coming from their research, national culture is rooted within the deep values and assumptions of people within a country, whereas organisational culture is identified on the level of the practices and artefacts within the organisation. According to The Hofstede Centre, such practices and artefacts represent the visible and less abstract surface of the organisation and are more easily learned and unlearned than core values and beliefs formed by national cultures. They state that organisational culture is shaped, apart form the further social, economic and technological context of the organisation, by national culture.

The eight dimensions that The Hofstede Centre distinguishes in order to score organisational culture, are means-oriented versus goal-oriented, internally driven versus externally driven, easygoing work discipline versus strict work discipline, local versus professional, open system versus closed system, employee-oriented versus work-oriented, degree of acceptance of leadership style and degree of identification with your organisation. (The Hofstede Centre, 2014)

- Power Distance (PDI)
  This dimension refers to how a certain society handles power inequalities. It expresses how the less powerful members of society accept power inequalities and expect power to be distributed unequally. It seems that people who exhibit a high degree of power distance, accept without any justification a hierarchical order in which everybody has a certain position.

People who exhibit a low degree of power distance aim to equalise the distribution of power and claim justification for inequalities.

- Individualism versus Collectivism (IDV)

  This dimension tells a national culture to be rather characterized by individualists or by collectivists. Individualism refers to the preference of having a flexible and loose framework in which individuals are expected to take care of themselves and their families. Collectivism refers to a close framework in society in which it is expected to look after each other and to exchange unquestioning loyalty. Whether a society is characterized more by individualism or more by collectivism can be based on whether people within the organisation have an "I" or a "we" self-image.

- Masculinity versus Femininity (MAS)

  This dimension positions a country in the range between the contrasts masculinity and femininity. Masculinity represents people in the society who find it important to achieve goals, to show heroism, to be assertive and often give material rewards for successes. The opposite, feminists, refers to people who prefer to cooperate, to be modest and caring for the weak and for quality of life. Feministic societies are characterized of aiming for consensus.

- Uncertainty Avoidance (UAI)

  This dimension tells how a national culture is characterized regarding the degree to which the members of society feel uncomfortable with uncertainty. It tells how a society deals with the fact that future can never be fully known. Where one society tries to control the future as much as possible, another just let it happen as it comes. Countries that tend to highly avoid uncertainty hold on to codes of belief and behaviour and do not handle unorthodox behaviour and ideas well. Countries that do not tend to avoid uncertainty have a more relaxed attitude in which practice counts more than principles.

- Pragmatic versus Normative (PRA)

  This dimension positions a country within the range of being rather pragmatic or rather normative. A pragmatic society is understood as a society with people who mostly do not have the need to explain everything. They believe that it is rather impossible to fully understand complexity of life and that it is important to live a virtuous life instead of aiming to know the exact truth; in their eyes the truth depends on situation, context and time, meaning that traditions are easily adapted to changes conditions. A normative society typically consists of people who have a strong desire to explain as much as possible and to establish the absolute truth. Those people aim to maintain traditions, hardly tend to anticipate on future changes and focus on achieving quick results.

- Indulgence versus Restraint (IND)

  This dimension refers to the extent to which a country can be characterized by people who are indulgent, or people who are rather restraint. An indulgent society consists of people who allow free manner of satisfaction of basic and natural human drives related to enjoying life and having fun. In contrast, a restraint society consists of people who have strict social norms in order to suppress the gratification of needs.

Each of the eight dimensions represents a scale between two extremities. When performing organisational culture investigation with this method, members of the organisation in case can rate their organisation with a score between these extremities of each of the eight dimensions. From these ratings, per dimension the average can be taken and together be used as an organisational culture profile.

The tool that The Hofstede Centre provides for investigation of organisational culture is widely applied in studies within the field of business, management and accountant sciences of social sciences and of decision sciences. (Nieminen, Biermeier-Hanson, & Denison, 2013) (Maull, Brown, & Cliffe, 2001) (Betitci, Mendibil, Nudurupati, Garengo, & Turner, 2006) The model is promoted for the use during mergers and acquisitions, in which insight is needed about actual organisational differences and requirements that determine whether synergy can happen or not. Furthermore, it is promoted as a tool to create an engaging culture within an organisation in which employees from all levels are engaged in such a way that organisation's objectives are realised in the most efficient and effective way. This also relates to the extent to which the organisational culture rather hinders or enables change on strategic or operational level. The Hofstede Centre also states that because the dimensions of the model are precisely defined, the model enables the

user to define optimal culture, than to assess leakages between actual and optimal culture and to create strategies for bridging those gaps if required.

This tool can thus be described as a framework to score the culture of an organisation on, resulting in a cultural profile that includes description on the eight assumed dimensions. It does not include a specific approach op steps on how to investigate what the score per dimension should be. The tool is a mix between a qualitative and quantitative approach. Scoring the dimensions in order to for example compare different organisational cultures with each other is a quantitative step, after which a qualitative underpinning description follows as motivation for the score.

A benefit of this method is that the organisational culture description is clearly constructed from eight dimensions that could be scored by a set of interviewees within the organisation in case. This provides a structured approach for the researcher for data collection and makes different cultural descriptions such as the previous and present organisational culture easy and clear to compare. The assumption is made that this method would be doable regarding the skills of the researcher, within the available time and would be applicable for investigation of previous and present organisational culture.

Schein (1983) - 'Iterative Clinical interview' research method

The 'Iterative Clinical Interview' approach can be described as a series of meetings and joint explorations between the researcher and a selection of motivated informants within the organisation who are clearly part of the organisational culture.
The research method covers investigation of the organisational culture on the three levels described in Section '1.1 Definition of the research context', being the observable artefacts on the surface level, the values and basic underlying assumptions representing the deepest level. The researcher at entry within the organisation can learn the observable artefacts; however contrastingly one has to cross inner boundaries in order to identify the deepest level assumptions and know what really is going on.

The goal when performing the Schein (1983) method is to decipher the culture of an organisation on a wide range of abstractness, so from the observable artefacts and practices until the deep values and assumptions. Thus, the Schein method does not make clear definition distinctions between national culture and organisational culture, but understands and investigates the culture of an organisation as one research object.

According to Schein (1996), concepts for understanding culture in organisations have value only when they make sense of organisational data and when they are definable enough to generate further study. He stresses that in order to understand an organisational culture, an intensive research method as such is important. Schein believes that if somebody really wants to decipher this culture, he or she must dig below the organisation's surface, crossing the visible artefacts, and uncover the basic underlying assumptions, which are core of an organisational culture. (Schein, Culture: The missing concept in organisation studies, 1996)

Schein is a researcher who performed numerous studies within the field of Business, Management and Accounting and of Psychology. His work is a widely applied source of inspiration in studies that aim to clarify organisational cultural aspects. In 1983, Schein developed a method to investigate organisational culture on an iterative clinical way. This 'Iterative Clinical interview' research method is specifically developed for outsiders who aim to describe the culture of an organisation as a basis to be able to advice the organisation about their organisational culture and how this leads to certain positive or negative dynamics within the organisation. Via the clinical approach, the researcher as an outsider of the organisation has to perform a series of interviews with individuals and groups by which underlying assumptions can be discovered. Schein developed a guide, in which the 'Iterative Clinical Interview' research method is clearly described, including all know-how needed to anticipate on certain issues or aspects to be taken into account when applying this method. In order to successfully report about the culture of an organisation, the following steps can be taken regarding the approach Schein (1989) described (A visualisation of these ten steps is given in Figure 25):

1. The first step is to enter the organisation and start **experiencing** the culture actively through systematic observations and passively through encountering surprises or deviations from first expectations.

2. In the next step the researcher will start to **systematically observe** in order to organise and check the first step observations whether they are indeed repeatable experiences. If indeed repeatable, these are likely to be a reflection of the organisational culture.
   (→ *Observe parallel to Q2 interviewing*)

3. Then, the researcher needs to **find an insider** who is analytically capable of and motivated to help decipher the organisational culture from the observations gained in previous steps. It is important that a proper relation is established with the insider before the next steps can be taken.
   (→ *1-hour meet & greet session with insider, introducing the research*)

4. In the fourth step the researcher will **reveal his or her findings**. Observations, surprises, reactions, theories and hunches about what is going on within the organisation will be shared with the insider.
   (→ *2-hour session with insider*)

5. In the fifth step the **insider** will give his or her thoughts and **explanations** about what all observations mean and whether the outsider correctly interpreted the observations. The **outsider and insider** then together try to **relate the observations to the categories** of basic assumptions as explained by Schein (1989), the deepest level of organisational culture.
   (→ *5-hour session with insider*)

6. After step 5, the observations and their explanations must be **formalized into hypothesis**. The outsider and insider must determine what additional data would provide a suitable test of whether the observations are really happening in practice. An example of such data is actual behaviour that one should be able to observe if the assumed observation indeed holds.
   (→ *2-hour session with insider*)

7. In the seventh step, the hypothesis will **systematically be checked** through new interviews or observations. Doing this should provide the outsider and insider with new evidence. At this point of research, the researcher should know enough about the organisation and should be able to know where and what to look for to gain this evidence. Examples are questionnaires, content analysis of documents, stories and systematic observations.
   (→ *1-hour session with insider for advising/ helping around, and shortly discussing checking results*)

8. Step 8 is stated to be one of the most difficult ones in which the researcher will **search for shared assumptions**. In this step the aim is to take the confirmed hypothesis and to clearly state what assumption is operating and how this influences behaviour.

9. After the shared assumptions are defined, in this step **recalibration** of the observations will be done based on the possible new data and knowledge that the outsider gained while working on the previous steps. The outsider can refine and modify the **model of the organisational culture** that he or she has been constructing throughout this research. Then, this model can be **tested** with a selection of other insiders via interviews.

10. In the final step of this research method the researcher will make a **formal description** of the organisational culture. The assumptions will be written down and interrelations will be identified.
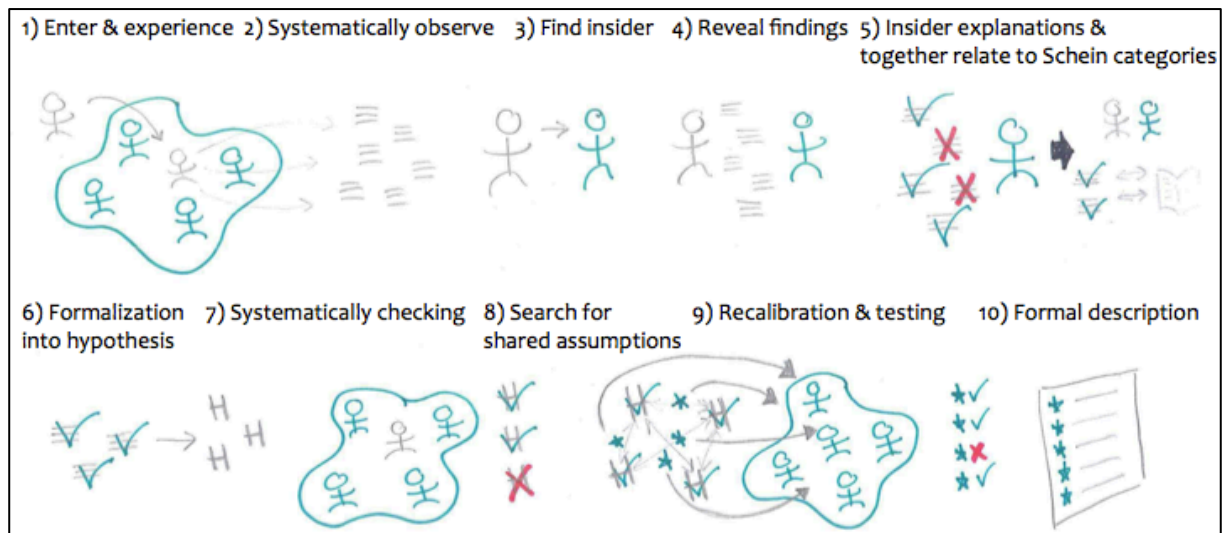
Figure 25 - Visualisation (developed by researcher) of the ten steps of the 'Iterative Clinical Research' method developed by Schein (1983)

This method is mainly applied in studies of organisational learning and studies that aim to change dynamics within organisations. Based on a brief literature study, it seems that most of the references to Schein's 'iterative clinical interview' research method concern studies done within the health care sector.

The 'Iterative Clinical Interview' research method can thus be described as one that deeply investigates and explains the multiple layers of the culture of an organisation. This method can be applied if the researcher wants to investigate culture in a qualitative way.

A clear characteristic of this approach is the high level of intensiveness of the organisational culture investigation. This method lets the researcher seek for and dig into the deep values and assumptions of an organisation, which can result in a relatively high level of insights about the culture of the organisation in case. However, within this research the distinction is taken into account between the deeper level national culture and the surface level organisational culture. Since the descriptions of national culture characteristics of the Port Authorities of Rotterdam and of Antwerp already can be gained from the model of The Hofstede Centre, the aim is to find a method that focuses on identification of specifically the surface layer of organisational culture.

Another reason for not choosing this method is that the researcher is relatively dependant on one person within the organisation, the insider. The quality level of the formal description of the organisational culture depends strongly on the extent of involvement of this insider. The success of this approach is highly sensitive to secondary factors such as the mood of the researcher and insider, the time availability, the patience and commitment of the insider in order to really seek for and dig into the outsiders observations, the acceptance and attitude of the involved people from the organisation in case towards the observations of the researcher and other aspects that relate to the skills and motivation of both the researcher and insider. Therefore, one clear challenge would be to find a suitable insider within both the Port Authorities and the dependency on this insider. And another clear challenge would be to achieve a certain level of deepness with this insider in order to achieve valuable conversations to create the right communication setting with the insider and with the other interviewees for revelation of reactions and for sufficient readiness to hear about the researcher's observations that may sound judgemental. Mainly because of these characteristics, compared to the other optional methods, this method is highly sensitive to bias.

C. Extended introduction to cases

This Appendix provides an extension for the introductions given on the cases in Section '3.1 Introduction to the cases'. First this will be provided with respect to the PoR case after which this is done for the PoA case. The extended introductions include:
- Further information about the Ports
- Further information about the Port Authorities
- Further information about the MV2 and DGD project and their importance of existence
- Extended timelines of key events along the development of the MV2 and DGD projects including the affected actors and their interests
- An overview of the affected actors in three levels (EU, national and regional)

C.1 PoR Authority and MV2 project

Introduction PoR Authority

As being the largest European logistic and industrial hub, the PoR is one of the main ports with regard to cargo throughput in Europe. (Rotterdam Port Authority, 2014) The PoR is ranked on position 10 on the list of most important container ports on global level, measured in TEU (Twenty Feet Equivalent Unit). Within Europe the PoR is ranked as the most important container port.
According to the PoR Authority, the strength of the port is their beneficial accessibility via the sea, their hinterland connections and the number of companies and organisations that are active in the port and industrial complex.

Table 6 shows some facts and figures of the PoR to provide an indication of the quantities in which it operates.

Table 6 - Facts and figures of the PoR (Port of Rotterdam Authority, 2013)

Unit	Quantity
Port Area	12,500 hectares of port area (land&water of which 6000 hectares industrial sites including the MV2) The length of the port area is ample 40 km
Goods throughput	Approximately 450 million tonnes of goods per year
Approximate shipping	32,000 ocean-going and 100,000 inland vessels per annum

Figure 26 shows a map of the PoR area including all the different types of goods activities for which the port facilitates and where these different goods and activities take place within the port area. As shown in the Figure, all kinds of different cargo flows come together in the port and are handled by specialized companies. Examples of cargo flows are containers, liquid bulk, dry bulk and other general cargo. Where possible, the companies that handle this cargo are located close to eachother. Therefore, the Port of Rotterdam can be seen as a collection of smaller specialized ports.(Haven van Rotterdam, 2014)
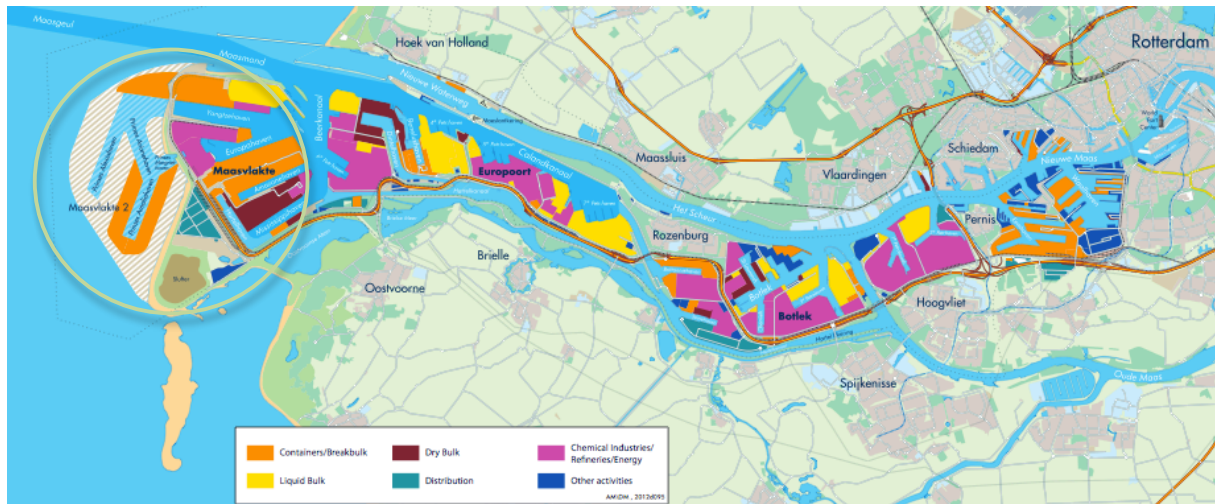
**Figure 26 - Map of PoR area including type and location of goods and activities.
(Havenbedrijf Rotterdam N.V., 2014) The green circle pinpoints the MV2 area.**

As visualized in Figure 26, it seems that the PoR has multiple functions. It is a global hub and gateway for containers, providing shipping, and forwarding companies with possible logistic solutions. The port provides clients constant insight in available services and connections from and to the port. With regard to container shipping, the PoR is the largest hub in Europe for deep-sea vessels, short-sea vessels and barges.

With regard to fuels, the PoR is a hub that offers large-scale production, storage and trade of fuels. It facilitates and provides service to the companies that belong to the Rotterdam Fuels Hub.

The PoR as Energy Port bundles infrastructure for arrival, transfer for distribution, production and knowledge of different raw energy materials, such as coal, natural gas, biomass and wind come together in the PoR.

Dry bulk is one of the most important cargo flows of the PoR. The port offers facilities that are required for transhipment via the terminals, storage, processing and distribution. The PoR is the link in the supply chain for industrial centres in Europe.

Furthermore, the PoR states to be the largest non-stop nautical and maritime service centre in Europe. They aim to offer customized onshore and offshore solutions to shipping companies, - agents and – operators internationally.

The PoR Authority was established in 1932 as a municipal authority and is privatized in 2004 into a so-called limited liability company. (Havenbedrijf Rotterdam N.V., 2014) The PoR has two shareholders, being the Municipality of Rotterdam (±70%) and the Dutch State (±30%). Nothwithstanding the fact that the organisation is publicly owned it is run like a commercial company. The PoR Authority counts approximately 1200 employees and has an annual turnover of approximately €600 million. (Port of Rotterdam Authority, 2013)

Nowadays, the PoR Authority is responsible for managing, operating and developing the port and the industrial area. Furthermore, they are responsible for the promotion of their way of handling of shipping in the port and to attracht shipping to the port.

They invest in the development of existing port area and in new port sites such as the MV2, in public infrastructure and the quick and safe handling of shipping traffic. Their goals are to strengten and maintain the port's competitive position as the most outstanding logistics hub and industrial complex in terms of size and quality. They want to develop in partnership towards the world-class European port.

From this introduction to the PoR and the PoR Authority it becomes clear that the PoR Authority is a hybrid organisation that provides multiple services and performes many different types of activities. The strategy developers in the PoR Authority for example have complete different task responsibilities and job context than the harbour masters that are focused on the operational side of the PoR Authority. It seems that the PoR Authority is actually a combination of complete different companies with different organisational structures and -cultures.

The organogram from the PoR Authority can be found in '3.3.1 PoR Authority'.

Introduction port development project: MV2

In the PoR, the MV2 is an expansion that is constructed via land reclamation. It is a large-scale, important and high-impact project for the PoR to maintain their competitive position with respect to other European ports. With the MV2, the PoR wants to anticipate on economic growth and boost the Rotterdam economy. (Gemeente Rotterdam, 2011) The expansion will function as new port and industrial area, and is part of the project Main Port Development Rotterdam (PMR). (PMV2, 2014) The PMR refers to the plans of port development with the MV2 while simultaniously nature and livability projects in the Rijnmond are being realised. These are coherent and parallel plans to create space in the port and in the region for companies as well as for nature with the aim to improve the net liveability in the total region. (PMV2, 2014) Figure 27 provides an overview of the total Rotterdam Mainport Development Project (PMR). The Figure shows that it consists of the three parallel plans; Developing the existing Rotterdam Area, realisation of the MV2 and installing 750 hectares of Nature and Recreation Area.
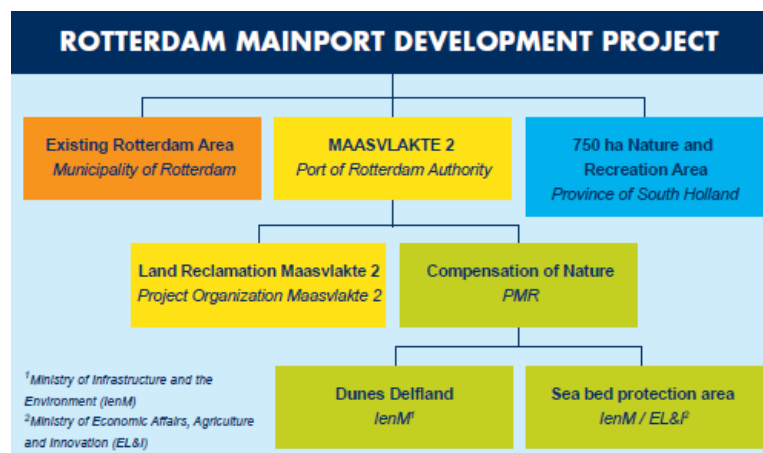
Figure 27 - Position of the MV2 project in the total PMR (PMV2, 2014)

Figure 26 shows the location of the MV2 in the port area. Figure 28 shows a skyview of the previous and present area, along the shore of the Netherlands at the hight of Rotterdam, were the MV2 is now constructed and further developed.

Figure 28 - Skyview MV2 left: Januari 2009 Right: June 2013 (PMV2, 2013)

Timeline MV2 project (key events, stakeholders, their role & influence)

This part of the Section presents the timeline of key events along the period including the moment that the plans for the MV2 project were coming up until now. The timeline (Table 7) shows the sequence of years with the key events regarding the MV2 project and the actors come into play that relate to these key events. For every actor the role within the project and their interest is also shown in the timeline. The key events are shortly named in the timeline. The timeline is also used in Section '3.4.1 PoR Authority' to present in chronological order the changes in working approach within the PoR with regard to efficiency improvement along large-scale PoR development projects.

Table 7 - Timeline (developed by researcher) MV2 project with key events and involved actors

		Key events MV2 project	**Year**	**Actors MV2 project**		
	With the PKB (started in mid ninetees) the MV2 importance is acknowledged	PoR Authority realises that more capacity is needed to grow in future	2000>	Port of Rotterdam Role: Manager, operator and developer of the Rotterdam port and industrial area Interest: Expansion of te Port of Rotterdam in order to improve their position within the market	The State Role: Representing the national interests, financial investor Interest: Mainten and Improve national welfare	
	Municipality of Rotterdam, Stichting Natuur en Milieu, Vereniging Natuurmonumenten and Consept close the agreement 'Visie en Durf'		2000	Municipality of Rotterdam Role: Defining and maining the strategies for the development of Rotterdam city. Interest: Maintain and improve the welfare of Rotterdam city.	The Netherlands Society for Nature and Environment Role: Protect the interests of Nature and Environment Interest: -	Society for Nature Monuments Role: Protect the interests of nature monuments Interest: -
		PKB is finished	2001			
			2002			
State invests in PMR	Municipality of Rotterdam and Province of South Holland start negotiation about about financing of PMR	PoR Authority starts sighning contracts with the first terminal users, - owners and contractors	2003	Province of South Holland Role: Shareholder in the PMR project, (dis)approving the MV2 Zoning Plans Interest: Maintain and improve the welfare of Province South Holland	Terminal users Role: Users of the MV2 terminals Interest: Being able to transship their goods and transport these to hinterland Terminal owners Role: owners of MV2 terminals Interest: Being able to transship goods for their clients	Contractors Role: Builders of the MV2 construction Interest: Performing profitable construction projects
Negotiations between State and Rotterdam (Municipality and Port Authority)	PMR agreement is sighned by State, Province South Holland, and the City Region, Municipality and Port Authority of Rotterdam	State and PoR Authority agree on that PoR Authority will take total responsibility for MV2	2004			
		PKB gets rejected by Council of State due to shortcomings at legal level (protection surrounding parties and citizens)	2005	Council of State Role: Reviewing of the MV2 Zoning Plan to approve or disapprove execution of the projectInterest: -		
	State and PoR Authority come to new agreement for MV2 realisation	State becomes co-shareholder of the MV2, meaning national level acknowledgement				
		Second Chamber gives greenlight for MV2		The Second Chamber Role: (Dis)approving the plans for the MV2 project Interest: Maintaining and developing the national policies in order to improve and develop Dutch society from various angels		

			Year	
		Preparation phase of the MV2 Project (2006-2008)	2006	
		Ecological impact assessment is made within a Strategic environmental assessment (SMB)		
		Zero measurement is performed of the Northsea seabed to later investigate long-term impact		
		Industry and ecological and environmental organisations positive about MV2. OMP appreciates improved PKB		Overleg van Maatschappelijke Partijen (OMP) Role: Consultation concerning the MV2 project Interest: -
Second Chamber gives greenlight for PKB	Dutch Parliament gives approval for 2nd phase MV2	Informational MV2 events organised for surrounding inhabitants		
		Both First and Second Chamber agree with planning decisions of the PKB		
PUMA consortium is born, consisting of Boskalis and Van Oord. Involved via a 'Design & Construct' contract	CMO1 is established by the PMV2 to keep high control on progress and compliance of agreements	PoR Authority and APM sign agreement on conditions for container terminal at the MV2	2007	PUMA consortium Role: Construction of the MV2 project Interest: Performing a profitable construction project
		MER (Extensive report for indication of environmental effects) of MV2 is developed		
		Construction phase of the MV2 Project (2008-2014)	2008	
		EIB makes €900 million available for MV2 construction		The European Investment Bank (EIB) Role: Providing access to extra budget for the MV2 project Interest: Maintaining and improving economic welfare on EU level
	4 environmental organisations, two umbrella organisations of industry, 3 ministeries, the Province, the Municipality, the City Region and the Port of Rotterdam come to an agreement to together control the compliance of the made agreements.	PoR Authority starts with MV2 contruction		
		Province of South Holland gives approval for MV2 zoning plans		

Milieudefence and PoR Authority sign the 'Overeenkomst Duurzame Maasvlakte' agreement resulting in emission studies	Foundation of wildlife projection and PoR Authority sign agreement about focus on wildlife during and after MV2 realisation.	FutureLand (information point MV2) opens	2009	Foundation of wildlife protection Role: Protect the interests of wildlife Interest: -
		Collaboration agreement signed by PMV2 and Foundation Next Generation Infrastructures to exchange knowledge and skills	2010	Foundation Next Generation Infrastructures Role: Supporting the Projectorganisation to let knowledge and skills meet in order to let the Port of Rotterdam develop in an optimal way Interest: Stimulating and facilitating infrastructure projects that concern next generations
			2011	
	RWG starts construction of container terminal on MV2	Construction of railway train connection towards MV2 is finished	2012	
PUMA finalizes 1st part of MV2 within planning, budget and quality requirements	MV2 officially opened for shipping	Ballast Nedam selected as manager of dry MV2 infrastructure	2013	Ballast Nedam Role: Management of dry infrastructure of the MV2 Interest: Performing a profitable management project
		PMV2 is being decomposed under a high focus of proper round-up. Management of the MV2 is being redistributed.	2014	
		PUMA for the coming ten years responsible for maintenance of MV2	>2014	

From the timeline with key events an overview is constructed of the actors regarding the MV2 project that were mentioned in Table 7. The overview is shown in Figure 29. All the actors in the overview directly have been involved in the MV2 project, so they are the actor context that the MV2 project has faced. There may be more actors that belong to the MV2 project context, however based on the extensive research done the assumption is made that they did not directly relate to the MV2 key events or did not directly contributed to the MV2 project process. The actor overview is structured into three layers; European level, national level and regional level. The colours of the actor boxes show the actor categories.
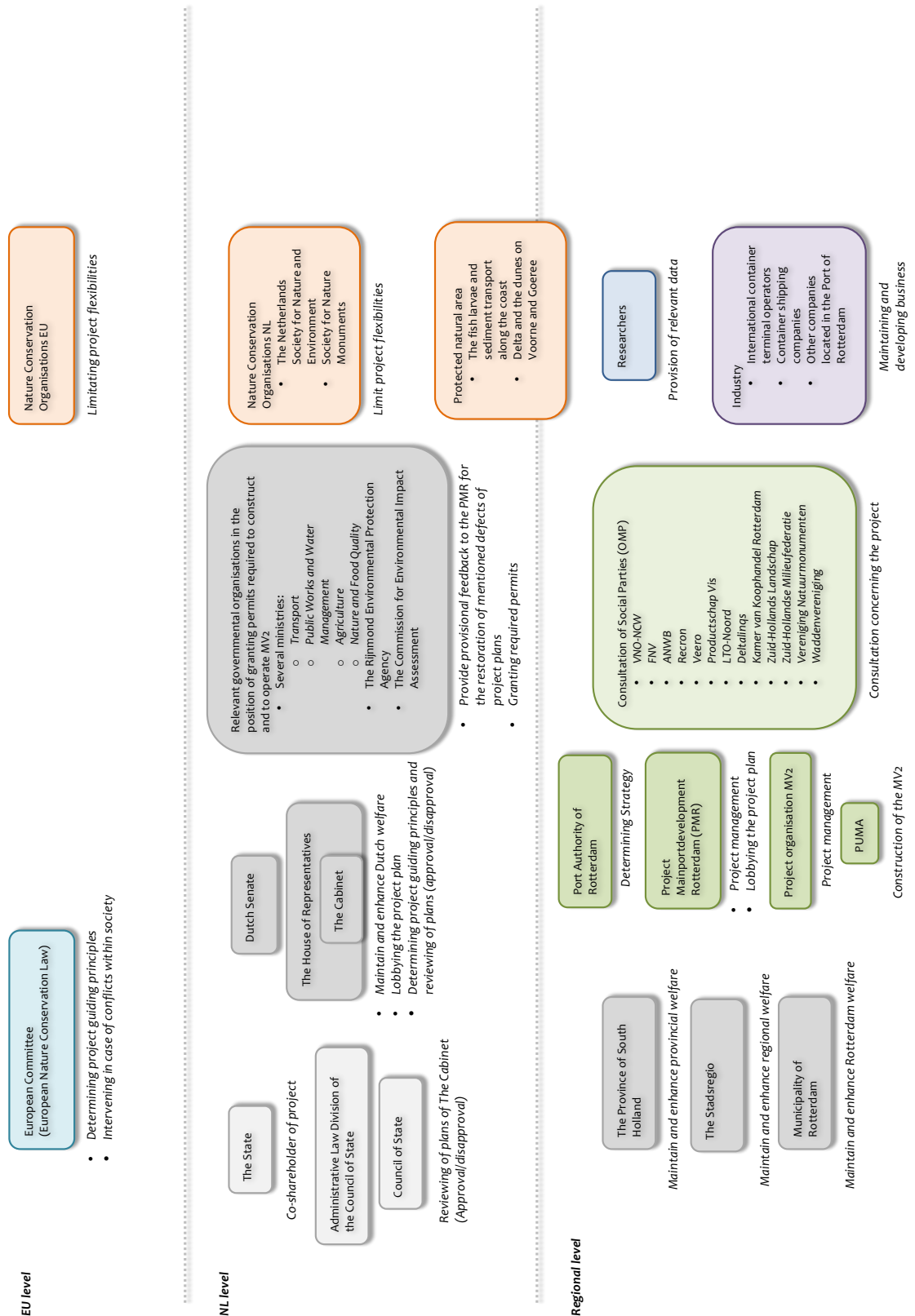
Figure 29 - Multilevel overview (developed by researcher) of actors that are directly affected by the MV2 project

C.2 PoA Authority and DGD project

Introduction PoA Authority

Currently the PoA is the largest seaport of Belgium and the second largest port in Europe. (Port of Antwerp, 2014) The PoA is ranked on position 13 on the list of most important container port on global level, measured in TEU (Twenty Feet Equivalent Unit).

The PoA Authory calls the PoA the 'supermarket of Europe'. They believe their strength mainly comes from having a central location in Europe, being for many European companies the link with other continents, providing a quick and safe connection for European hinterland, being a modern port with modern storage areas and machines to load and discharge goods, providing high productivity, having sufficient capacity, prioritising sustainability, having a stable cargo offer and being a multi-functional port.

Table 8 shows some facts and figures of the PoA to provide an indication of the quantities in which it operates.

Table 8 - Facts and figures of the PoA (Port Authority of Antwerp, 2014)

Unit	Quantity
Port Area	13,057 hectares of port area: - Left bank: 7,239 hectares - Right bank: 5,818 hectares
Goods throughput	Approximately 190 million tonnes of goods per year
Approximate shipping	3,587 ocean-going vessels per annum

Figure 30 shows a map of the PoA area including the different types of functions in the port area. The port consists of two parts, namely the Left bank and the Right bank, which are separated by the Scheldt River.

Over 900 companies are located within this port area, from which a large part belongs to the chemical sector. This is also the reason that the PoA is the largest chemical port of Europe. By having 30 base-chemical producing companies and seven of the ten largest chemical companies located in the PoA, the port respresents the largest integrated chemicals cluster of Europe. Furthermore, they distinguish themselves with being the most modern fruitterminal and having the largest concentration of covered warehouses of the world. Also coffee, steel and wood represent large share of the goods.

**Figure 30 – Map of PoA with the demarcated area
functionalities (Port of Antwerp, 2014). The red circle pinpoints the DGD floodgate.**

Within the PoA multiple goods are handled. Five types of cargo that can be distinguished are container cargo, liquid bulk, dry bulk, breakbulk and ro-ro.

In the containers multiple types of products are stored for transport, varying from clothing to meat to computers. The liquid goods refer to different types of oil and liquid products. Liquid bulk is a large share in the total troughput of goods. The liquid bulk is not processed in the PoA, but passes the PoA towards the next destination. Dry bulk refers to for example grain, coal, sugar and sand. Those are transported in large quantities via a variety of transportation methods. A lot of the dry bulk is processed in the PoA into construction products for example steel or consumer goods such as beer. The breakbulk are all products that can be transported easily in a container, such as paper, rolls of steel and parts of wind turbines. Containers with breakbulk are being lifted, loaded or discharged in the port. The PoA seems to be leading in the world when it comes to the handling of breakbulk. The final type of good is ro-ro (short for roll on/ roll off), referring to cargo that has to be transported on large ro-ro vessels that are driven by specifically skilled drivers. Ro-ro goods are for example busses, trucks and agricultural vehicles. Handling of ro-ro goods happens mainly on the Left bank of the PoA. (Port of Antwerp Authority, 2014)

In 1819 the ownership and management of all port property was given to the Municipality of Antwerp, after which in 1997 the Municipality established the Municipal Port of Antwerp Authority. The PoA Authority was established as an autonomous, municipally-owned company with having its own decision-making power and a human resources policy separate from the municipality. Also the PoA Authority has the power to reach joint ventures with other companies or government departments. The single shareholder of the PoA Authority is the Municipality of Antwerp. (Port of Antwerp Authority, 2014)

Today, the PoA Authority consists of approximately 1,650 employees and has an approximate annual turnover of €330 million.

It aims to be a mix between a vital port, efficient port, supported port and sustainable port (Port of Antwerp, 2014) and claim to ensure that the port is able to function and work on a sustainable future to ensure that it can maintain the leading role as an international seaport. The PoA Authority manages and maintains all the different elements of the port (the docks, locks, quay walls and land) and is responsible for the efficient transfer and safety of the shipping traffic in the PoA area. It provides all the needed facilities for the shipping activities and performs the construction works within the port such as the dredging work. Also the PoA Authority is responsible for the promotion of the port on national and on international level.

From this brief introduction to the PoA and the PoA Authority it becomes clear that, similar to the PoR Authority, the PoA Authority is a hybrid organisation. It also provides multiple services and performes many different types of activities. It seems that also the PoA Authority is actually a combination of complete different companies with different organisational structures and -cultures.

The organogram from the PoA Authority can be found in '3.3.2 PoA Authority'.

Introduction port development project: DGD

In the PoA the DGD has been realised as a new tidal dock on the Left bank of the port. It is directly accessible from the Scheldt as a new landing place for shipped containers. With the DGD the PoA Authority and the Flemish Government want to anticipate on the strongly increasing container transport and the limited space of berthing quay in the port. (Het Rekenhof, 2005) With the development of the DGD, the container handling capacity at the PoA has more then doubled. Also with this new floodgate the access to the doks on the Left bank shore of the Scheldt should be ensured. The floodgate provides the ships coming from the Scheldt River the ability to navigate to the port doks. The floodgate is deeper than those that were already present in the PoA enabling also different and larger types of ships to enter the port. It provides the PoA Authority the reliability in case the other floodgates would not be accessible for shipping for example because of maintenance or repair.   (Department Mobiliteit en Openbare Werken, 2009)

In Figure 30 the location of the DGD can be found in the map of the PoA area on the Left bank.

Timeline DGD project (key events, stakeholders, their role & influence)

This part presents the timeline of key events along the period including the moment that the plans for the DGD project were coming up until now. The timeline (Table 9) shows the sequence of years with the key events regarding the DGD project and which actors come into play that relate to these key events. For every actor the role within the project and their interest is also shown in the timeline. The key events are shortly named in the timeline. The timeline is also used to develop the timeline for Section '3.4.2 PoA Authority' to present in chronological order the changes in working approach within the PoA with regard to efficiency improvement along large-scale PoA development projects.

Table 9 – Timeline (developed by researcher) DGD project with key events and involved actors

	Key Events DGD project	Year	Actors DGD project	
	Establishment of the authonomous Municipal Port Authority with the Municipality as 100% shareholder	1997		
Decision is made by Flemish Government and Municipal Port Authority to build the DGD.	Framework decisions regarding DGD are made by Flemish Government	1998	Flemish Government and administrations (waterways, nature, air quality, agriculture, etc.) Role: Defining and maintaining the strategies for the development of Flanders. Interest: Improving and maintaining the welfare of	Village Doel Role: Users of the land that will experience the impacts of the DGD project Interest: Maintaining the living standards

			Flanders.	
			Municipality of Beveren Role: Making all decisions that concern port development on the Left bank together with the Port Authority Interest: Maintaining the living standards of the Doel inhabitants	**NGO's** Role: Co-designing the strategic planning, maintaining the interests of their members Interest: -
	Complaints about potential impacts from local NGO's via EU Commission to the Flemish Government		**EU Commission** Role: Determining project guiding principles, intervening in case of conflicts within society Interest: Maintenance and Improvement of european welfare	
Management of DGD project shifts from Flemish level to PoA Authority.	Agreement on principles of strategic planning for 'Left Bank Port Development' signed by public actors	1999	**Association for Land and Industrial Policy on Left Bank** Role: Developing and maintaining policies for land and industry on Left bank Interest: Proper management of land and indsutrial development.	
	Action committee 'Doel 2020', the 'Werkgroep Natuurreservaten Linkeroever' and the Flemish agrarian centre pressure up to a hold on the project		**Werkgroep Natuurreservaten Linkeroever** Role: Protect the interests of nature reserves Interest: -	**Vlaams Agrarisch Centrum** Role: Protect the interests of farmers Interest: -
	Compensation plans for future port expansion confirmed	2000		
Stakeholders (PoA Authority, Province Left bank, Province Right bank, Nature-NGO's, Farmers, a railway company) become part of strategic planning process	Earlier decision on 'viability' of Doel is suspended		**PoA Authority**Role: Main manager of all development on the Rechteroever, manager of the DGD projectInterest: Expansion of the Port of Antwerp in order to improve their position within the market	**The Province Left bank**Role: Part of strategic planning processInterest: Improve the welfare of Left bank province**The Province Right bank**Role: Part of strategic planning processInterest: Improve the welfare of Right bank province
	First phase of DGD construction starts		**Nature-NGO's** Role: Co-designing the strategic planning, maintaining the interests of their members Interest: - **Farmers** Role: Co-designing the strategic planning, maintaining the interests of their members Interest: -	**A railway company** Role: Co-designing the strategic planning, maintaining the interests of their members Interest: Extra container transport when DGD is in function
	Ongoing protest by NGO's and action committee 'Doel 2020' against project and principles		**Action Committee 'Doel 2020'** Role: Representing the interests of the inhabitants of Doel Interest: Maintaining the living standards in Doel	**Administrative Court of Justice** Role: Lawyer in case of conflict in regional society Interest: -
New complaints via EU Commission reported by WNLW referring to lack of impact assessment in MER	The Council of State compels the Port Authority to improve the content of nature compensation in the MER.		**Council of State** Role: Reviewing of the MV2 Zoning Plan to approve or disapprove execution of the project Interest: -	

Juridical procedures at Administrative Court of Justice.	Council of State puts mandatory hold on DGD construction. Every day of delay it costs the PoA Authority €1,7 million		
Preparations done by Flemish Government to create legal framework to enable a quick restart of DGD project	PoA Authority takes initiative to radically review MER (normally done by Flemish Government)		
	Minister of Public Works submits new building permit		
AGHA performs alarming study about potential traffic gridlock due to DGD	Decisions are implemented in regional zoning plan for Left bank and PoA		AGHA (de Antwerpse Gemeenschap voor de Haven)Role: Performing impact studies, Interest: Protecting the grouped interests of the port society
	Start 2nd phase of Strategic Planning Process for Left bank area to reach consensus on port development in compliance with habitat and bird directive.		
Complaints from EU Commission to Flemish Government about strategic plan	Flemish Government gives permission for 2nd railway access	**2001**	
AGHA asks Flemish Parliament for procedure decree which would enable bypassing judgements of Council of State	Strategic plans first need to be assessed by Dutch province board of Zeeland		Dutch province board of Zeeland Role: Assessing the project with regard to the Dutch legislations Interest: Maintain and improve the welfare of Province South Holland
	Council of State puts mandatory hold on DGD construction for 2nd time		
New environmental impact study done by PoA Authority to recover critisisms of EU Commission	PoA Authority develops extensive compensation plan with high focus on nature losses. NGO's are partly involved.		
Environmental Impact Assessment (EIA) - compensation plan is accepted by Flemish Parliament	EIA-compensation plan includes protocol between public actors to share responsibilities regarding implementation. Plan includes installation of Management Committee and monitoring by institute of Nature Conservation.		Management Committee Role: Have overall supervision of the compensation plan and to resolute in case of conflicts Interest: To let the compensation plan proceed and be realised as planned
	Action committee 'Doel 2020' willing to accept DGD construction under certain conditions		
However, juridical procedures initiated by action committee 'Doel 2020'	Support from environmental movement due to EIA-compensation plan. They become partner of PoA Authority		
Flemish Parliament willing to approve procedure decree that was requested by AGHA and thereby acknowledge the strategic need for quick realisation of DGD	Action committee 'Boerenbond' disagrees with nature compensation plansincluded in validation degree		Aciton committee 'Boerenbond' Role: representing the interests regarding agriculture and horticulture Interest: -

		Year	
	Flemish Parliament approves emergency degree to stop financial losses increase as cause of the project hold		
	Public research should be done for 3rd time by PoA Authority to obtain environmental permits, causing extra delay	2002	
Doel inhabitants refuse to accept Flemish Parliament decision to continue DGD construction	Construction of DGD continues		
Council of State rejects DGD regional plans, however without effect due to emergency degree provided by Flemish Government	Rejection of Council of State and delays in DGD construction results in loss of trust from MSC (largest client of PoA)		Shipping company MSC Role: Client of the Port Authority Interest: Being able to transship their containers and transport these to hinterland
Dozens of Doel farmers are expropriated from their land.	Action committee 'Doel 2020' consults the European Court of Human Rights in Strasbourg.		European Court of Human Rights in Strasbourg Role: Role: Objective lawyer in case of conflicts within society (not sensitive for the interests of the Belgium government) Interest: -
		2003	
		2004	
	First phase of DGD finished; DGD taken into use	2005	

From the timeline with key events an overview is constructed of the actors regarding the DGD project that were mentioned in Table 9. The overview is shown in Figure 31. All the actors in the overview directly have been involved in the DGD project, so they are the actor context that the DGD project has faced. As also mentioned for the MV2 project case, there may be more actors that belong to the DGD project context, however based on the extensive research done the assumption is made that they did not directly relate to the DGD key events or did not directly contributed to the DGD project process. The actor overview is structured into three layers; European level, national level and regional level. The colours of the actor boxes show the actor categories.
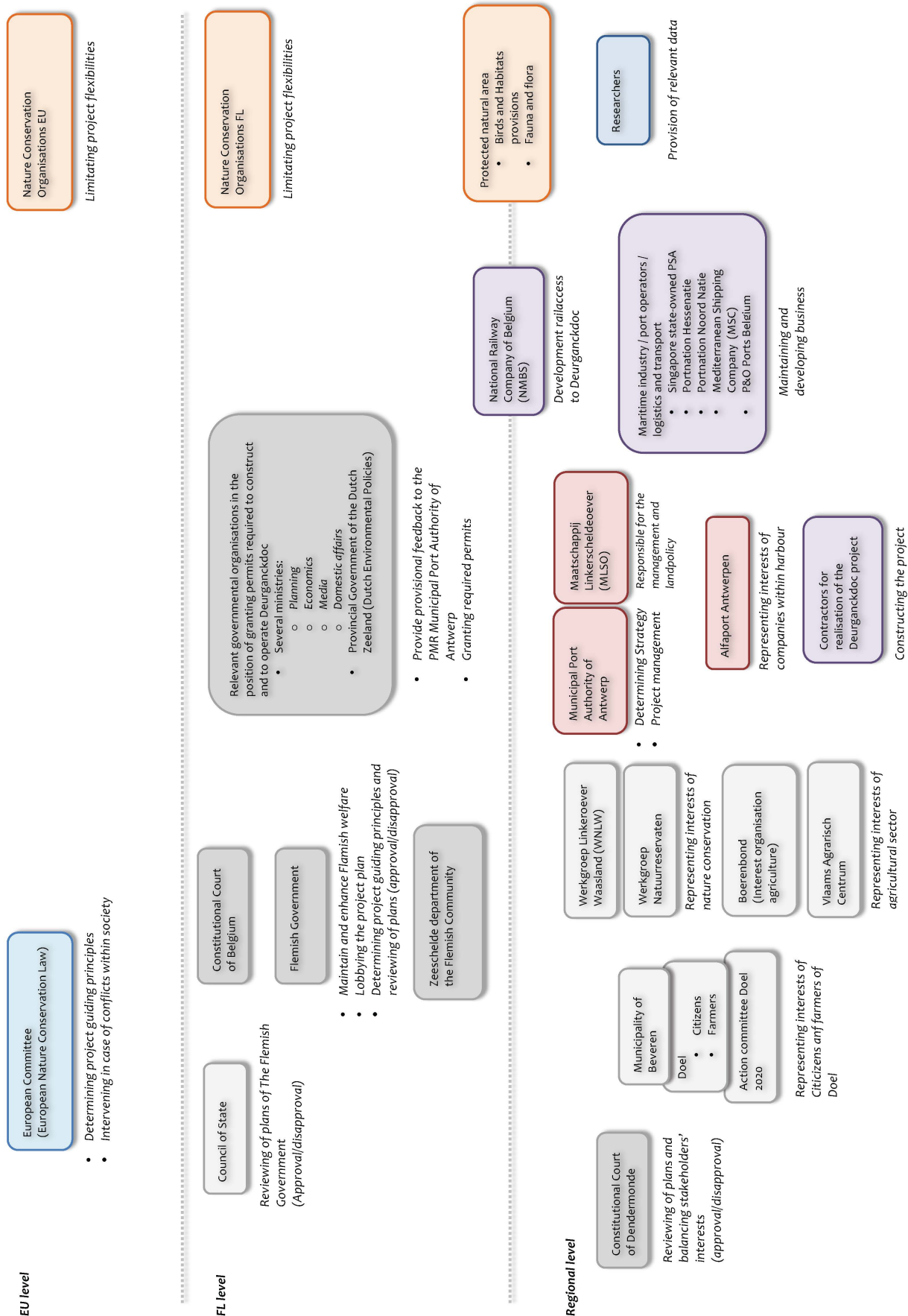
EU level

Nature Conservation
Organisations EU

Limitating project flexibilities

European Committee
(European Nature Conservation Law)

- *Determining project guiding principles*
- *Intervening in case of conflicts within society*

FL level

Nature Conservation
Organisations FL

Limitating project flexibilities

Relevant governmental organisations in the
position of granting permits required to construct
and to operate Deurganckdoc
- Several ministries:
  - Planning
  - Economics
  - Media
  - Domestic affairs
- Provincial Government of the Dutch
  Zeeland (Dutch Environmental Policies)

- *Provide provisional feedback to the
  PMR Municipal Port Authority of
  Antwerp*
- *Granting required permits*

Constitutional Court
of Belgium

Flemish Government

- *Maintain and enhance Flamish welfare*
- *Lobbying the project plan*
- *Determining project guiding principles and
  reviewing of plans (approval/disapproval)*

Zeeschelde department of
the Flemish Community

Council of State

*Reviewing of plans of The Flemish
Government
(Approval/disapproval)*

Constitutional Court
of Dendermonde

*Reviewing of plans and
balancing stakeholders'
interests
(approval/disapproval)*

Regional level

Protected natural area
- Birds and Habitats
  provisions
- Fauna and flora

Researchers

Provision of relevant data

National Railway
Company of Belgium
(NMBS)

*Development railaccess
to Deurganckdoc*

Maritime industry / port operators /
logistics and transport
- Singapore state-owned PSA
- Portnation Hessenatie
- Portnation Noord Natie
- Mediterranean Shipping
  Company (MSC)
- P&O Ports Belgium

*Maintaining and
developing business*

Maatschappij
Linkerscheldeoever
(MLSO)

*Responsible for the
management and
landpolicy*

Municipal Port
Authority of
Antwerp

- *Determining Strategy*
- *Project management*

Alfaport Antwerpen

*Representing interests of
companies within harbour*

Contractors for
realisation of the
Deurganckdoc project

Constructing the project

Werkgroep Linkeroever
Waasland (WNLW)

Werkgroep
Natuurreservaten

*Representing interests of
nature conservation*

Boerenbond
(Interest organisation
agriculture)

Vlaams Agrarisch
Centrum

*Representing interests of
agricultural sector*

Municipality of
Beveren

Doel
- Citizens
- Farmers

Action committee Doel
2020

*Representing interests of
Citicizens anf farmers of
Doel*

Figure 31 - Multilevel overview (developed by researcher) of actors that are directly affected by the DGD project

D. Taking the difference in national culture characteristics into account

This Appendix provides elaboration about when and how the national culture characteristics of the Port Authorities (regarding Flanders for the PoA Authority and the Netherlands for the PoR Authority) are taken into account along the research. This is done for each of the six dimensions that are distinguished by The Hofstede Centre (2014).

Power Distance (PDI)
The difference between the Netherlands and Flanders regarding the general view on power distance is important to consider during all contact moments with both Port Authorities. In the PoR it might be easier to have equivalent and open conversations with employees from any position and any level. In Flanders the need for a more delicate approach with higher level of formalities is expected. Regarding getting people involved for this research, in the PoA acknowledgement on management level is mainly determining and in the PoR acknowledgement might be determining from various levels in hierarchy. Furthermore, it could be expected that interviewees from the Port of Antwerp will try to represent the vision of their managers in their answers, whereas those from the Port of Rotterdam will feel freer to share their personal ideas.

Individualism versus Collectivism (IDV)
The relatively equal score on this dimension means that no approach adaptation is needed between research in PoR and PoA. For further steps of this research the high score on individualism could mean that people on the Port Authorities are willing to share their personal visions and stories instead of a general answer matching as well as possible with everybody else within the organisation. It could also mean that as a researcher within the organisation, the employees would respect and support your individual work and goals. However, showing your respect to hierarchy stays important.

Masculinity versus Femininity (MAS)
With regard to further steps of this research, the different level of openness and equality in for example discussions should be taken into account. The researcher should be careful with his/her opinion or for example certain statements during a discussion at the Port Authority in Antwerp than in Rotterdam. In the PoR such openness and equality might be more accepted, because Dutch people seem to see discussions as key to solutions and strive for equality. In Flemish workspaces, people seem to be less direct and more delicate and detailed in for example their negotiation processes, meaning that as a researcher a more delicate approach is needed when approaching and interviewing employees from the PoA.

Uncertainty Avoidance (UAI)
The extreme score of Begium is important to be taken into account in further steps of this research. Communication about the research, about appointments and usage of their results and about possible dynamics should be clear and in time. This of course is also important during collaboration with the PoR, however less stress would be caused in case of unexpectancies.

Pragmatic versus Normative (PRA)
These high scores could be explaining for certain organisational dynamics regarding the rejections of the zoning plans of both Port Authorities. A pragmatic attitude might mean that during the development of the zoning plans, in both organisations there was a lack of strong desire to explain as much as possible and to establish the absolute truth about potential weak points in the zoning plan. Regarding the rejection, pragmatism could have helped the Port Authorities to change traditions quickly and from then on anticipate on future changes and focus more on the long-term results.
Regarding the further steps of this research, pragmatic help could be expected from the Port Authorities when approaching and involving them and arranging the interviews for data collection.

Indulgence versus Restraint (IND)
For the following research steps, the countries' scores on this dimension should be considered when interpreting observations about the ambience in both Port Authorities. The researcher can expect people in the PoR to be rather free in their expression of drives, thoughts and beliefs, whereas in the PoA people might be slightly more preserved in this. Also, the researcher can adapt her own extent of expressing drives, thoughts and beliefs, to both Port Authorities.

E. Case Study Interviews

E.1 Overview of interviews and interviewees

Table 10 – Overview (developed by researcher) of interviews performed in the PoR and PoA Authorities

	Investigating the previous organisational structure and –culture		Investigating the present organisational structure and –culture	
	Port Authority of Rotterdam	Port Authority of Antwerp	Port Authority of Rotterdam	Port Authority of Antwerp
	Projectorganisatie Maasvlakte 2	Employees involved in the DGD project during successful continuation of the project	Overall current Port Authority	Overall current Port Authority
Strategic top	1 interview	1 interview	1 interview	1 interview
	Frank Hoevenaars (Director Projectcontrol Maasvlakte 2)	Chris Coeck (Manager Strategy and Analysis)	Henk de Bruijn (Director Corporate Strategy)	Chris Coeck (Manager Strategy and Analysis)
Technostructure	1 interview	1 interview	1 interview	1 interview
	Tiedo Vellinga (Director Environmental Monitoring Maasvlakte 2)		Ankie Janssen (Business developer Gas&Power)	Laura Verlaeckt (Technical Manager Environment) Jan van Dessel (Consultant Intermodality & Hinterland)
Middle line	1 interview	1 interview	1 interview	1 interview
	Jan van Kleef (Interface manager Maasvlakte 2)	Toon Tessier (Chief Advisor Environmental Policy Coördination)	*Anonymous* (Head Environmental Management)	Toon Tessier (Chief Advisor Environmntal Policy Coördination)
Operating core	1 interview	1 interview	1 interview	1 interview
	Jan-Willem Weststrate (Scopemanager Maasvlakte 2)	Marnix Delée (Head traffic controller)	Martijn Oosting (Area manager Port Development) Jan-Willem Weststrate (Scopemanager Maasvlakte 2)	Marnix Delée (Head traffic controller)
Support staff	1 interview	1 interview	1 interview	1 interview
	Julija van der Aa (Consultant Quality Management) Eileen Niks (Manager Communication Maasvlakte 2)	Guy Janssens (Legal Expert of Environmental Affairs, now: Policy Manager)	Jaap Jelle Feenstra (Head Public Affairs)	Inge Eelen (Financial Controller) Guy Janssens (Legal Expert of Environmental Affairs, now: Policy Manager)

E.2 Interview formats

Investigation of the previous organisational structure, –culture and working approach:

Data verzameling • Afstudeeronderzoek TU Delft • Hester Engelsman

Interview (#) :
Naam :
Haven :
Datum :

Doel

Beantwoording van de volgende onderzoeksvraag:
How did organisational structure & culture within the Port of Rotterdam and Port of Antwerp change after rejection of their zoning plans and did both learn from the past on the long-term?

Het doel van het onderzoek is om in kaart te brengen welke veranderingen binnen de organisatie hebben geleid tot succesvolle realisatie van het project en wat de organisatie hier op de lange termijn van heeft geleerd. De havenbedrijven zouden de resultaten van dit onderzoek kunnen raadplegen om te weten tot in hoeverre zij geleerd hebben van de nodige interne veranderingen en tot in hoeverre de huidige organisatiestructuur en -cultuur binnen het havenbedrijf gunstig zijn voor succesvolle verdere ontwikkeling van de havengebieden. Voor organisaties in het algemeen is het doel om inspiratie te bieden voor hoe kan worden onderzocht wat geleerd is van het verleden wat betreft het verkrijgen van een geschikte organisatiestructuur en -cultuur om verdere ontwikkeling van de organisatie te realiseren.

Specifiek:
Door middel van dit interview worden de verleden organisatiestructuur en -cultuur in kaart gebracht waar het deel van de havenbedrijven mee konden worden gekarakteriseerd dat zich bezig hield met het verloop van het Maasvlakte 2 project in Rotterdam en het Deurganckdoc project in Antwerpen. De huidige organisatiestructuur en –cultuur van de havenbedrijven over het algemeen, zullen in kaart worden gebracht via huidige werknemers die niet specifiek zijn bezig geweest met de realisatie van het Maasvlakte 2 en Deurganckdoc project. Beide onderzochte organisatiestructuren en -culturen zullen per havenbedrijf worden geanalyseerd en vergeleken, om vervolgens conclusies te kunnen trekken over wat beide havenbedrijven op de lange termijn hebben geleerd van het verleden en tot in hoeverre de huidige organisatiestructuur en -cultuur van de havenbedrijven gunstig zijn voor succesvolle realisatie van havenontwikkelingsprojecten. Dit onderzoek heeft niet als hoofddoel om beide havenbedrijven met elkaar te vergelijken.

Opmerkingen vooraf

- In dit document refereert 'het project' naar de Maasvlakte 2 realisatie in geval van de Rotterdamse Haven en naar de Deurganckdoc realisatie in geval van de Antwerpse haven.
- Er zijn geen goede of foute antwoorden.
- Om de kwaliteit van het onderzoek te maximaliseren wordt gevraagd om de vragen zo nauwkeurig mogelijk te beantwoorden.
- Ter bevordering van behoud van informatie zal het interview worden opgenomen.
- De opname zal worden uitgewerkt en vervolgens met de geïnterviewde persoon worden afgestemd voor goedkeuring.
- De resultaten van dit interview zullen worden beheerd door de onderzoeker en niet worden verspreid buiten de TU Delft.
- Het eindrapport van dit onderzoek kan op aanvraag achteraf worden toegezonden.

Het deel van het havenbedrijf werkzaam voor het project

Over geïnterviewde [10 min]

Omschrijving van de onderzoekscontext (havenontwikkelingsproject en verloop)
- Kunt u in het kort omschrijven hoe in uw ogen over het algemeen de realisatie van het project is verlopen?
- Wat was uw positie binnen het havenbedrijf voordat interne veranderingen plaatsvonden ten behoeve van succesvolle realisatie van het project?
- Is uw positie gedurende de realisatie van het project veranderd en zo ja hoe?

Q3) Typering organisatiestructuur gedurende de succesvolle realisatie van het project (Mintzberg, 1983) [30 min]

Organogram

- Hoe is volgens u het organogram van het havenbedrijf veranderd gedurende de realisatie van het project? (Zie figuur 2 voor Havenbedrijf Rotterdam en figuur 3 voor Gemeentelijk Havenbedrijf Antwerpen)

Typering organisatiestructuur

Via bepaling van de drie dimensies van Mintzberg (1983) – kernrollen, belangrijkste coördinatiemechanisme en type decentralisatie – kan de organisatiestructuur van een organisatie worden getypeerd.

- Wie en hoeveel personen representeerde/representeerden volgens u de volgende kernrollen tijdens de realisatie van het project en welk element heeft volgens u het meeste invloed gehad op de eindresultaten? Zie figuur 1 voor een visualisatie.
  - De strategische top (top management en hun ondersteunende staff)
  - De uitvoerende kern (werknemers die het uitvoerende werk doen van de organisatie)
  - Het midden-kader (het midden van lagere management)
  - De technostructuur (analisten, zoals ingenieurs / boekhouders / planners / onderzoekers / personeelsmanagers)
  - Ondersteunende diensten (mensen die indirecte service bieden zoals juridisch adviseur, administratie, voedsel service, onderhoud)

- Welk belangrijkste coördinatiemechanisme karakteriseerde volgens u het deel van het havenbedrijf dat zich bezig hield met de realisatie van het project? En waar blijkt dat volgens u uit:
  a. Directe supervisie (één individu verantwoordelijk voor andermans werk; verwijst naar de eenheid van bevel en scalaire principes)
  b. Standaardisatie van werk processen (wanneer inhoud van werk is gespecificeerd of geprogrammeerd, zoals functie omschrijvingen die de werk prestatie van werknemers beoordelen)

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c. Standaardisatie van vaardigheden (wanneer vaardigheden worden beheerd door trainingen en bijvoorbeeld het behalen van certificaten die nodig zijn om het werk te doen)

d. Standaardisatie van resultaten (wanneer werk resultaten gespecificeerd en gestandaardiseerd zijn, bijvoorbeeld voorgeschreven werkdoelen)

e. Onderlinge afstemming (wanneer het werk wordt gecoördineerd via informele communicatie; onderlinge afstemming en coördinatie is belangrijk. Dit is vertegenwoordigd in het 'linking-pin' concept van Likert (1987))

Horizontale decentralisatie = De mate waarin niet-managers zoals de analisten en specialisten van de ondersteunende diensten besluiten maken, of gedeelde autoriteit tussen lijn en staf

Verticale decentralisatie = Delegeren van beslissingsbevoegdheid naar lagere niveaus in de gezagslijn, van de strategische top naar het middenkader

- Welk type decentralisatie was volgens u van toepassing binnen het deel van het havenbedrijf dat zich bezig hield met de realisatie van het project? En waar blijkt dat volgens u uit? (Zie figuur 4)

a. Verticale en horizontale centralisatie (Beslissingsbevoegdheid voornamelijk in handen van één persoon; de topman van het bedrijf. De topman heeft zowel formele en informele macht in handen en neemt alle belangrijke besluiten zelf en coördineert de uitvoering daarvan door middel van direct toezicht.)

b. Beperkte horizontale decentralisatie (In verticale richting gecentraliseerd, de formele macht is geconcentreerd in de hogere regionen van de lijnhiërarchie, in het bijzonder de strategische top.)

c. Beperkte verticale decentralisatie (Organisatie is verdeeld in markteenheden of divisies, aan managers is een behoorlijke formele bevoegdheid gedelegeerd om beslissingen over hun markten te nemen.)

d. Selectieve verticale en horizontale decentralisatie (Delegatie van beslissingsbevoegdheid aan verschillende eenheden binnen de organisatie om bijvoorbeeld gebruikers beter te kunnen bedienen. In verticale richting wordt bevoegdheid voor verschillende soortenbeslissingen gedelegeerd naar meerdere niveaus in hiërarchie, in horizontale richting wordt gebruik gemaakt van stafexpertise.)

e. Verticale en horizontale decentralisatie (Beslissingsbevoegdheid is grotendeels in de uitvoerende kern geconcentreerd, omdat die uit professionals bestaat en de coördinatie van hun werk tot stand komt door standaardisatie van vaardigheden.)

<u>Afronding</u>

- Heeft u verder nog opmerkingen/ aanvulling wat betreft organisatiestructuur?

Q4) Identificatie organisatiecultuur die effectief was voor succesvolle realisatie van het project (Cameron & Quinn, 2006) [30 min]

Met het Organizational Culture Assessment Instrument (OCAI) zal de verleden organisatiecultuur in kaart worden gebracht. Het OCAI bestaat uit 6 dimensies waarvan elk 4 alternatieven heeft. De bedoeling is om per dimensie 100 punten te verdelen onder de vier alternatieven op basis van de mate waarin elk alternatief evenwaardig was aan uw organisatie gedurende succesvolle realisatie van het project. Geef een hogere hoeveelheid punten aan het alternatief dat meer bij uw organisatie paste. (Bijvoorbeeld: Als alternatief A en B redelijk evenwaardig zijn aan uw organisatie, C heel erg evenwaardig en D nauwelijks evenwaardig, dan zou u A en B elk 20 punten

kunnen toekennen, C 55 punten en D 5 punten. Houdt er slechts rekening mee dat het totaal uitkomt op 100 punten.)

Met de scores zal het cultuurprofiel van de organisatie worden opgesteld, door dezen te plotten op het zogeheten Competing Values Framework.

1.	Dominante karakteristieken	Verleden
A	De organisatie was een heel persoonlijke plek. Het was als een uitgebreide familie. Mensen leken veel persoonlijke zaken te delen.	
B	De organisatie was een heel dynamisch en ondernemende plek. Mensen waren gewillig om hun nek uit te steken en risico's te nemen.	
C	De organisatie was heel resultaat georiënteerd. Een hoofdzorg was om de klus te klaren. Mensen waren heel competitief en prestatiegericht.	
D	De organisatie was een heel gecontroleerde en gestructureerde plek. Formele procedures bepaalden over het algemeen wat mensen deden.	
	Total	100

2.	Organisatorisch leiderschap	Verleden
A	De leiding van de organisatie werd over het algemeen gekenmerkt als mentor, facilitator en stimulator.	
B	De leiding van de organisatie werd over het algemeen gekenmerkt als voorbeeld van ondernemers lust, innovatie en het durven van risico nemen.	
C	De leiding van de organisatie werd over het algemeen gekenmerkt met een no-nonsense, agressieve, resultaatgeoriënteerde focus.	
D	De leiding van de organisatie toonde over het algemeen een blijk van coördinatie, organisatie en soepel lopende efficiëntie.	
	Total	100

3.	Beheer van werknemers	Verleden
A	De managementstijl van de organisatie werd gekenmerkt door teamwork, consensus en participatie.	
B	De managementstijl van de organisatie werd gekenmerkt door het nemen van individueel risico, innovatie, vrijheid en uniciteit.	
C	De managementstijl van de organisatie werd gekenmerkt door niets ontziende competitie, hoge eisen en prestatie.	
D	De managementstijl van de organisatie werd gekenmerkt door veiligstellen van de baan, de voorschriften, voorspelbaarheid en stabiliteit in relaties.	
	Total	100

4.	Het bindmiddel van de organisatie	Verleden
A	Het bindmiddel dat de organisatie bijeen hield, bestond uit loyaliteit en wederzijds vertrouwen. Inzet voor deze organisatie stond hoog in het vaandel.	
B	Het bindmiddel dat de organisatie bijeen hield, bestond uit inzet voor innovatie en ontwikkeling. 'Living on the edge' mentaliteit stond hoog in het vaandel.	
C	Het bindmiddel dat de organisatie bijeen hield, bestond uit de nadruk op prestaties en het bereiken van doelstellingen.	
D	Het bindmiddel dat de organisatie bijeen hield, bestond uit formele regels en beleid. Het handhaven van een soepel lopende organisatie was belangrijk.	
	Total	100

5.	Strategische nadruk	Verleden
A	De organisatie legde de nadruk op menselijke ontwikkeling. Het aanhouden van hoog niveau van vertrouwen, openheid en participatie was belangrijk.	
B	De organisatie legde de nadruk op het werven van nieuwe middelen en het creëren van nieuwe uitdagingen. Streven naar nieuwe dingen en zoeken naar kansen werd gewaardeerd.	
C	De organisatie legde de nadruk op competitief gedrag en prestatie. Het bereiken van ambitieuze doelstellingen en het winnen in de markt speelden de hoofdrol.	
D	De organisatie legde de nadruk op duurzaamheid en stabiliteit. Efficiëntie, beheersbaarheid en een soepele uitvoering was belangrijk.	
	Total	100

6.	Criteria voor succes	Verleden
A	De organisatie definieerde succes op grond van de ontwikkeling van menselijk kapitaal, teamwerk, betrokkenheid en zorg voor mensen.	
B	De organisatie definieerde succes op grond van de meest unieke en nieuwste producten. Het was een product leider en innovator.	
C	De organisatie definieerde succes op grond van winnen in de markt en sneller dan de concurrentie. Concurrerende marktleiderschap stond centraal.	
D	De organisatie definieerde succes op grond van efficiëntie. Betrouwbare levering, soepele planning en goedkope productie waren van cruciaal belang.	
	Total	100

Afronding

- Heeft u verder nog opmerkingen/ aanvulling wat betreft organisatiecultuur?

Afronding

- Heeft u nog vragen aan de onderzoeker?
- Heeft u nog overige opmerkingen/ suggesties?
- Planning terugkoppeling en verdere stappen van het onderzoek

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Investigation of the present organisational structure, –culture and working approach:

INDUSTRIAL ECOLOGY
INNOVATIVE BY NATURE

TU Delft
Delft University of Technology

Universiteit Leiden

Data verzameling • Afstudeeronderzoek TU Delft • Hester Engelsman

Interview (#) :
Naam :
Haven :
Datum :

Doel

Beantwoording van de volgende onderzoeksvraag:
How did organizational structure & culture within the Port of Rotterdam and Port of Antwerp change after rejection of their zoning plans and did both learn from the past on the long-term?

Het doel van het onderzoek is om in kaart te brengen welke veranderingen binnen de organisatie hebben geleid tot succesvolle realisatie van het project en wat de organisatie hier op de lange termijn van heeft geleerd. De havenbedrijven zouden de resultaten van onderzoek kunnen raadplegen om te weten tot in hoeverre zij geleerd hebben van de nodige interne veranderingen en tot in hoeverre de huidige organisatiestructuur en -cultuur binnen het havenbedrijf gunstig zijn voor succesvolle verdere ontwikkeling van de havengebieden. Voor organisaties in het algemeen is het doel om inspiratie te bieden voor hoe kan worden onderzocht wat geleerd is van het verleden wat betreft het verkrijgen van een geschikte organisatiestructuur en -cultuur om verdere ontwikkeling van de organisatie te realiseren.

Specifiek:
Door middel van dit interview worden de huidige organisatiestructuur en -cultuur van de havenbedrijven over het algemeen in kaart gebracht. De organisatiestructuur en -cultuur waar het deel van het havenbedrijf mee kon worden gekarakteriseerd dat zich bezig hield met het verloop van het Maasvlakte 2 project in Rotterdam en het Deurganckdoc project in Antwerpen, zullen in kaart worden gebracht via werknemers die specifiek zijn bezig geweest met de realisatie van de projecten. Beide onderzochte organisatiestructuren en -culturen zullen per havenbedrijf worden geanalyseerd en vergeleken, om vervolgens conclusies te kunnen trekken over wat beide havenbedrijven op de lange termijn hebben geleerd van het verleden en tot in hoeverre de huidige organisatiestructuur en -cultuur van de havenbedrijven gunstig zijn voor succesvolle realisatie van havenontwikkelingsprojecten. Dit onderzoek heeft niet als hoofddoel om beide havenbedrijven met elkaar te vergelijken.

Opmerkingen vooraf

- In dit document refereert 'het project' naar de Maasvlakte 2 realisatie in geval van de Rotterdamse Haven en naar de Deurganckdoc realisatie in geval van de Antwerpse haven.
- Er zijn geen goede of foute antwoorden.
- Om de kwaliteit van het onderzoek te maximaliseren wordt gevraagd om de vragen zo nauwkeurig mogelijk te beantwoorden.
- Ter bevordering van behoud van informatie zal het interview worden opgenomen.
- De opname zal worden uitgewerkt en vervolgens met de geïnterviewde persoon worden afgestemd voor goedkeuring.
- De resultaten van dit interview zullen worden beheerd door de onderzoeker en niet worden verspreid buiten de TU Delft.
- Het eindrapport van dit onderzoek kan op aanvraag achteraf worden toegezonden.

Over geïnterviewde [10 min]

- Wat is momenteel uw positie?
- Wat is momenteel uw verantwoordelijkheid en bijdrage aan havenontwikkelingsprojecten?

Q3) Typering huidige organisatiestructuur (Mintzberg, 1983) [30 min]

Organogram

- Hoe is volgens u het organogram van het havenbedrijf gedurende de realisatie van het project veranderd tot wat het nu is? (Zie figuur 2 voor Havenbedrijf Rotterdam en figuur 3 voor Gemeentelijk Havenbedrijf Antwerpen)

Typering organisatiestructuur

Via bepaling van de drie dimensies van Mintzberg (1983) – kernrollen, belangrijkste coördinatiemechanisme en type decentralisatie – kan de organisatiestructuur van een organisatie worden getypeerd.

- Welk element representeert /welke elementen representeren volgens u de kernrollen voor havenontwikkelingsprojecten binnen het havenbedrijf en heeft/hebben volgens u het meeste invloed op eindresultaten? Zie figuur 1 voor u een visualisatie.
  - De strategische top (top management en hun ondersteunende staff)
  - De uitvoerende kern (werknemers die het uitvoerende werk doen van de organisatie)
  - Het midden-kader (het midden en lagere management)
  - De technostructuur (analisten, zoals ingenieurs / boekhouders / planners / onderzoekers / personeelsmanagers)
  - Ondersteunende diensten (mensen die indirecte service bieden zoals juridisch adviseur, administratie, voedsel service, onderhoud)

- Welk belangrijkste coördinatiemechanisme karakteriseert volgens u het havenbedrijf? En waar blijkt dat volgens u uit:
  a) Directe supervisie (1 individu verantwoordelijk voor andermans werk; verwijst naar de eenheid van bevel en scalaire principes)
  b) Standaardisatie van werk processen (wanneer inhoud van werk is gespecificeerd of geprogrammeerd, zoals functie omschrijvingen die de werk prestatie van werknemers beoordelen)
  c) Standaardisatie van vaardigheden (wanneer vaardigheden worden beheerd door trainingen en bijvoorbeeld het behalen van certificaten die nodig zijn om het werk te doen)
  d) Standaardisatie van resultaten (wanneer werk resultaten gespecificeerd en gestandaardiseerd zijn, bijvoorbeeld voorgeschreven werkdoelen)

  e) Onderlinge afstemming (wanneer het werk wordt gecoördineerd via informele communicatie; onderlinge afstemming en coördinatie is belangrijk. Dit is vertegenwoordigd in het 'linking-pin' concept van Likert (1987))

Horizontale decentralisatie = De mate waarin niet-managers zoals de analisten en specialisten van de ondersteunende diensten besluiten maken, of gedeelde autoriteit tussen lijn en staf
Verticale decentralisatie = Delegeren van beslissingsbevoegdheid naar lagere niveaus in de gezagslijn, van de strategische top naar het middenkader

- Welk type decentralisatie is volgens u van toepassing binnen het havenbedrijf? En waar blijkt dat volgens u uit?
  a. Verticale en horizontale centralisatie (Beslissingsbevoegdheid voornamelijk in handen van één persoon; de topman van het bedrijf. De topman heeft zowel formele en informele macht in handen en neemt alle belangrijke besluiten zelf en coördineert de uitvoering daarvan door middel van direct toezicht.)
  b. Beperkte horizontale decentralisatie (In verticale richting gecentraliseerd, de formele macht is geconcentreerd in de hogere regionen van de lijnhiërarchie, in het bijzonder de strategische top.)
  c. Beperkte verticale decentralisatie (Organisatie is verdeeld in markteenheden of divisies, aan managers is een behoorlijke formele bevoegdheid gedelegeerd om beslissingen over hun markten te nemen.)
  d. Selectieve verticale en horizontale decentralisatie (Delegatie van beslissingsbevoegdheid aan verschillende eenheden binnen de organisatie om bijvoorbeeld gebruikers beter te kunnen bedienen. In verticale richting wordt beslissingsbevoegdheid gedelegeerd naar meerdere niveaus in hiërarchie, in horizontale richting wordt gebruik gemaakt van stafexpertise.)
  e. Verticale en horizontale decentralisatie (Beslissingsbevoegdheid is grotendeels in de uitvoerende kern geconcentreerd, omdat die uit professionals bestaat en de coördinatie van hun werk tot stand komt door standaardisatie van vaardigheden.)

Afronding

- Heeft u verder nog opmerkingen/ aanvulling wat betreft organisatiestructuur?

Q4) Identificatie huidige organisatiecultuur (Cameron & Quinn, 2006) [30 min]

Met het Organizational Culture Assessment Instrument (OCAI) zal de huidige organisatiecultuur in kaart worden gebracht. Het OCAI bestaat uit 6 dimensies waarvan elk 4 alternatieven heeft. De bedoeling is om per dimensie 100 punten te verdelen onder de vier alternatieven op basis van de mate waarin elk alternatief momenteel evenwaardig is aan uw organisatie. Geef een hogere hoeveelheid punten aan het alternatief dat meer bij uw organisatie past. (Bijvoorbeeld: Als alternatief A en B redelijk evenwaardig zijn aan uw organisatie, C heel erg evenwaardig en D nauwelijks evenwaardig, dan zou u A en B elk 20 punten kunnen toekennen, C 55 punten en D 5 punten. Houdt er slechts rekening mee dat het totaal uitkomt op 100 punten.)

Met de scores zal het cultuurprofiel van de organisatie worden opgesteld, door dezen te plotten op het zogeheten Competing Values Framework.

1. Dominante karakteristieken	Huidig
A	De organisatie is een heel persoonlijke plek. Het is als een uitgebreide familie. Mensen lijken veel persoonlijke zaken te delen.	
B	De organisatie is een heel dynamisch en ondernemende plek. Mensen zijn gewillig om hun nek uit te steken en risico's te nemen.	
C	De organisatie is heel resultaat georiënteerd. Een hoofdzorg is om de klus te klaren. Mensen zijn heel competitief en prestatiegericht.	
D	De organisatie is een heel gecontroleerde en gestructureerde plek. Formele procedures bepalen over het algemeen wat mensen doen.	
	Total	100

2. Organisatorisch leiderschap	Huidig
A	De leiding van de organisatie wordt over het algemeen gekenmerkt als mentor, facilitator en stimulator.	
B	De leiding van de organisatie is over het algemeen gekenmerkt als voorbeeld van ondernemers lust, innovatie en het durven van risico nemen.	
C	De leiding van de organisatie wordt over het algemeen gekenmerkt met een no-nonsense, agressieve, resultaatgeoriënteerde focus.	
D	De leiding van de organisatie toont over het algemeen een blijk van coördinatie, organisatie en soepel lopende efficiëntie.	
	Total	100

3. Beheer van werknemers	Huidig
A	De managementstijl van de organisatie wordt gekenmerkt door teamwork, consensus en participatie.	
B	De managementstijl van de organisatie wordt gekenmerkt door het nemen van individueel risico, innovatie, vrijheid en uniciteit.	
C	De managementstijl van de organisatie wordt gekenmerkt door niets ontziende competitie, hoge eisen en prestatie.	
D	De managementstijl van de organisatie wordt gekenmerkt door veiligstellen van de baan, de voorschriften, voorspelbaarheid en stabiliteit in relaties.	
	Total	100

4. Het bindmiddel van de organisatie	Huidig
A	Het bindmiddel dat de organisatie bijeenhoudt bestaat uit loyaliteit en wederzijds vertrouwen. Inzet voor deze organisatie staat hoog in het vaandel.	
B	Het bindmiddel dat de organisatie bijeenhoudt bestaat uit inzet voor innovatie en ontwikkeling. 'Living on the edge' mentaliteit staat hoog in het vaandel.	
C	Het bindmiddel dat de organisatie bijeenhoudt bestaat uit de nadruk op prestaties en het bereiken van doelstellingen.	
D	Het bindmiddel dat de organisatie bijeenhoudt bestaat uit formele regels en beleid. Het handhaven van een soepel lopende organisatie is belangrijk.	
	Total	100

5. Strategische nadruk	Huidig
A	De organisatie legt de nadruk op menselijke ontwikkeling. Het aanhouden van hoog niveau van vertrouwen, openheid en participatie is belangrijk.	
B	De organisatie legt de nadruk op het werven van nieuwe middelen en het creëren van nieuwe uitdagingen. Streven naar nieuwe dingen en zoeken naar kansen wordt gewaardeerd.	
C	De organisatie legt de nadruk op competitief gedrag en prestatie. Het bereiken van ambitieuze doelstellingen en het winnen in de markt spelen de hoofdrol.	
D	De organisatie legt de nadruk op duurzaamheid en stabiliteit. Efficiëntie, beheersbaarheid en een soepele uitvoering is belangrijk.	
	Total	100

6. Criteria voor succes	Huidig
A	De organisatie definieert succes op grond van de ontwikkeling van menselijk kapitaal, teamwork, betrokkenheid en zorg voor mensen.	
B	De organisatie definieert succes op grond van de meest unieke en nieuwste producten. Het is een product leider en innovator.	
C	De organisatie definieert succes op grond van winnen in de markt en sneller dan de concurrentie. Concurrerende marktleiderschap staat centraal.	
D	De organisatie definieert succes op grond van efficiëntie. Betrouwbare levering, soepele planning en goedkope productie zijn van cruciaal belang.	
	Total	100

Afronding

- Heeft u verder nog opmerkingen/ aanvulling wat betreft organisatiecultuur?

Afronding

- Heeft u nog vragen aan de onderzoeker?
- Heeft u nog opmerkingen/ suggesties?
- Planning terugkoppeling en verdere stappen van het onderzoek

E.3 Interviewee codings and their weightings

E.3.1 PMV2

Interviewees PMV2

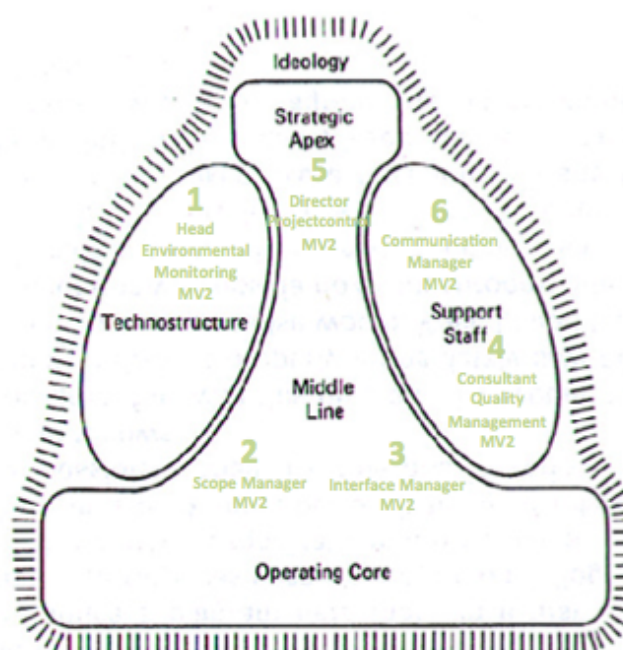| Interviewee	Name	Position
1	Tiedo Vellinga	Head of Environmental Monitoring MV2
2	Jan-Willem Weststrate	Scope Manager MV2
3	Jan van Kleef	Interface Manager MV2
4	Julija van der Aa	Consultant Quality Management MV2
5	Frank Hoevenaars	Director Projectcontrol MV2
6	Eileen Niks	Communication Manager MV2

Figure 32 - An overview (developed by researcher) of the interviewees for the PMV2, presented in the Mintzberg (1983) model that represents the PMV2

Weightings interviewees PMV2

Table 12 – Weightings (determined by researcher) of the PMV2 interviewees

Interviewee	Weight	Motivation for weight
Tiedo Vellinga	2	Involved during entire MV2 project, with an important role in the PMV2 including much contact with a large variety of external and internal disciplines so probably a highly representative perception on organisational characteristics, also employed in other projects of the PoR Authority. However, role in PMV2 not directly related with internal effectiveness of the organisation.
Julija van der Aa	3	A supportive function regarding the content of the MV2 project, focused on maximizing the effective collaboration within the PMV2 so therefore a highly representative perception on organisational characteristics.
Eileen Niks	1	Communication department was very important along the MV2 project, especially communication towards project environment resulting in a high external focus and a relatively lower internal focus on effectivity of the PMV2. Therefore, compared with other interviewees a lower representative perception of internal organisational characteristics.
Frans Hoevenaars	3	Director function, organisation-wide perception of the PMV2, responsible for creation of

		effective organisational structure to realise the MV2 project, from the directors position a well overview on the dynamics between different departments resulting in a relatively high representativeness of the organisational characteristics.
Jan-Willem Weststrate	3	Employed on different positions within the Port Authority so able to compare well with the PMV2, his function has relatively high focus on organisational effectiveness (an consulting role within the PMV2 but also within the Port Authority). Therefore, a relatively representative perception of the organisational characteristics.
Jan van Kleef	1	Specialized function within the PMV2 and relatively low focus on internal effectiveness resulting in a relatively low representativeness of the perception about internal organisational characteristics of the PMV2.
Interviewees from the Port Authority about PMV2	1	Are less experienced than people fully working in the PMV2, are not part of the culture, maybe have a coloured view about the culture dimensions

E.3.2 Current PoR Authority

Interviewees current PoR Authority

Table 13 – Overview of current PoR Authority interviewees

| Interviewee	Name	Position
1	Jan-Willem Weststrate	Scope Manager MV2
2	*Anonymous*	Head Environmental Management
3	Martijn Oosting	Area Manager Port Development
4	Henk De Bruijn	Director Corporate Strategy
5	Ankie Janssen	Business Developer
6	Jaap Jelle Feenstra	Head Public Affairs
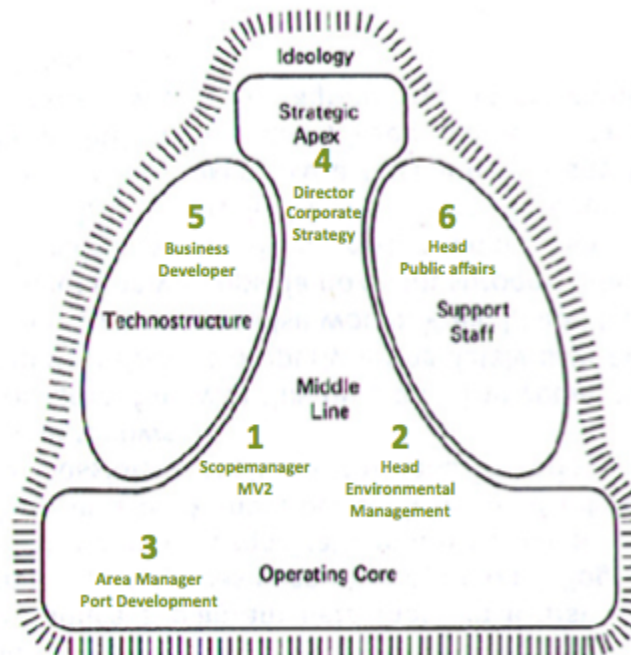
Figure 33 - An overview (developed by researcher) of the interviewees for
the current PoR Authority, presented in the Mintzberg (1983) model that represents the total PoR Authority

Weighitngs interviewees current PoR Authority

Table 14 – Weightings (determined by researcher) of the present PoR Authority interviewees

Interviewee	Weight	Motivation for weight
Head of Environmental Management Department (anonymous)	2	Relatively long time employed within the Port Authority and therefore a relatively developed perception of the organisation-wide characteristics. However, head of a relatively specialized discipline department in which organisation-wide focus relatively low. Also, the department does not have a direct relation with internal effectiveness improvement of the Port Authority.
Martijn Oosting	1	Position in the operating core of the Port Authority possibly resulting in relatively lower view on total organisation because of main focus on content within one department. Collegues are within this department so limited interaction with other departments, possibly resulting in a perception that is relatively biased by department specific personal experiences. Also responsibilities do not directly relate to internal organisational effectiveness of the department or total Port Authortiy.
Jan-Willem Weststrate	2	Employed on positions within the Port Authority and the PMV2 so able to compare well with the PMV2. Function has relatively high focus on effectiveness of the organisation so possibly a relatively highly representative perception of organisational characteristics of both PMV2 and Port Authority. However, mainly employed within the PMV2, so relatively lower experience in way of working regarding port development projects in the Port Authority.
Henk de Bruijn	3	Employed for long time within the Port Authority so relatively developed perception of the organisational characteristics. Focus on vision and strategies of the Port Authority, resulting in a relatively representative perception on the different services and departments of the organisation and how they differ from eachother.
Ankie Janssen	2	Focus on development of new markets for the Port Authority, collaborates with many various departments, relatively high influence on vision and strategies of Port Authority. Therefore, probably relatively organisation-wide perception and a relatively representative perception of the organisational characteristics. However, her responsibilities are not specifically focused on internal effectiveness of the organisation.
Jaap Jelle Feenstra	1	Head of mainly externally focused department, therefore possibly relatively lower representative perception of the organisation-wide characteristics. Because of the mainly external focus also lower amount of experience with substantive contact with other internal departments. Therefore possibly a relatively lower representative perception on organisational characteristics among and within different departments.
PMV2 interviewees about Port Authority	1	Are less experienced than people fully working in the Port Authority, are not part of the culture, maybe have a coloured view about the culture dimensions

E.3.3 Previous PoA Authority

Interviewees previous PoA Authority

Table 15 – Overview of previous PoA Authority interviewees

| Interviewee	Name	Position
1	Marnix Delee	Head Traffic Controller
2	Guy Janssens	Legal Expert Env. Affairs
3	Chris Coeck	Strategy and Analysis Manager
4	Toon Tessier	Chief Advisor Env. Policy Coordination
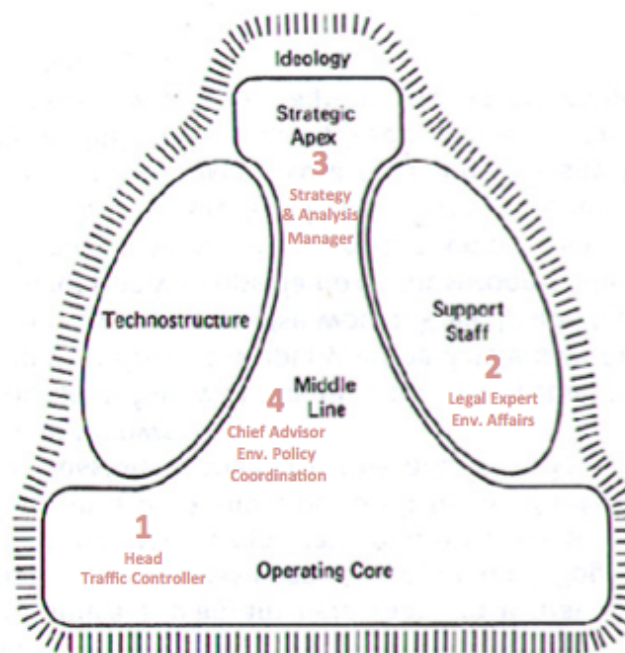
**Figure 34 - An overview (developed by researcher) of the interviewees for
the previous PoA Authority, presented in the Mintzberg (1983) model that represents the total PoA Authority**

Weightings interviewees previous PoA Authority

Table 16 - Weightings (determined by researcher) of the previous PoA Authority interviewees

Interviewee	Weight	Motivation for weight
Toon Tessier	2	Employed for long time within the PoA Authority. Closely involved along the DGD project and therefore a relatively representative perception of the organisational characteristics regarding the progress of the project and how the different disciplines of the PoA Authority worked together with eachother and with externally involved actors. However, focus of responsibilities was specified resulting in a possibly lower organisation-wide perception along the project.
Guy Janssens	2	Employed for long time within the PoA Authority. Closely involved along the DGD project and therefore a relatively representative perception of the organisational characteristics regarding the progress of the project and how the different disciplines of the PoA Authority worked together with eachother and with externally involved actors. However, focus of responsibilities was specified resulting in a possibly lower organisation-wide perception along the project.
Chris Coeck	3	Strategy and analysis, longest working time in Port Authority and responsible for organisation-wide issues that closely relate to the vision and scope of port development scenarios. Therefore a relatively high representation of insights about typical PoA Authority characteristics with respect to port development.
Marnix Delee	1	Employed for a long time within the PoA Authority. Position within the operating core with responsibilities related to port development. However, due to position a relatively lower organisation-wide focus on internal effectiveness. Also not directly involved in the DGD project.

E.3.4 Present PoA Authority

Interviewees present PoA Authority

Table 17 – Overview of current PoA Authority interviewees

Interviewee	Name	Position
1	Marnix Delee	Head Traffic Controller
2	Inge Eelen	Financial Controller
3	Guy Janssens	Policy Manager

4	Chris Coeck	Strategy and Analysis Manager
5	Toon Tessier	Chief Advisor Env. Policy Coordination
6	Laura Verlaeckt	Technical Manager Environment
7	Jan van Dessel	Consultant Intermodality and Hinterland
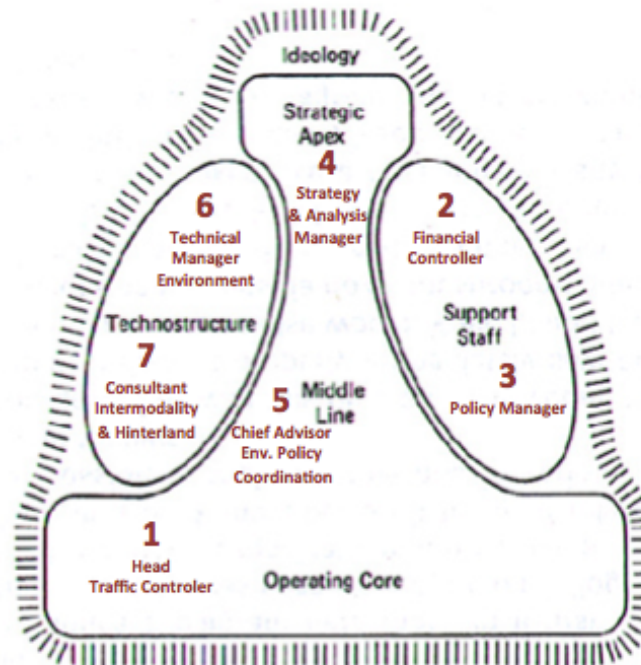
Figure 35 - An overview (developed by the researcher) of the interviewees for the current PoA Authority, presented in the Mintzberg (1983) model that represents the total PoA Authority

Weightings interviewees present PoA Authority

Table 18 - Weightings (determined by researcher) of the present PoA Authority interviewees

Interviewee	Weight	Motivation for weight
Toon Tessier	2	Employed for long time within the PoA Authority. Closely involved along the DGD project and therefore a relatively representative perception of how the organisational characteristics are different with respect to port development than in times of DGD project. However, focus of responsibilities was specified resulting in a possibly lower organisation-wide perception along the project.
Guy Janssens	2	Employed for long time within the PoA Authority. Closely involved along the DGD project and therefore a relatively representative perception of how the organisational characteristics are different with respect to port development than in times of DGD project. However, focus of responsibilities was specified resulting in a possibly lower organisation-wide perception along the project.
Chris Coeck	3	Strategy and analysis, longest working time in Port Authority and responsible for organisation-wide issues that closely relate to the vision and scope of port development scenarios. Therefore a relatively high representation of insights about typical PoA Authority characteristics with respect to port development.
Marnix Delee	1	Employed for a long time within the PoA Authority. Position within the operating core with responsibilities related to port development. However, due to position a relatively lower organisation-wide focus on internal effectiveness. Also not directly involved in the DGD project resulting in a relatively lower ability to compare organisational structure and –culture characteristics and working approaches along the DGD with nowadays.
Inge Eelen	1	Position within a support staff department, highly specialized responsibilities with relatively low focus on organisational-wide effectiveness improvement, relatively low level of interaction with different organisational departments. Therefore a possibly lower representativeness level of the perception on organisation-wide characteristics with respect to port development. Also employed in the PoA Authority for a relatively short period.
Jan van Dessel	2	Position within the technostructure with a focus on internal and external organisational

			effectiveness improvement and on port development. Also high amount of interaction with various departments resulting in a relatively representative perception on organisation-wide characteristics. However relatively shortly employed within the PoA Authority.
Laura Verlaeckt	2		Highly specialized position within the operating core with responsibilities regarding port development, however relatively low collaboration with other departments within the PoA Authority. Responsibilities also have relatively low connection to internal organisational effectiveness improvement. This results in a possibly lower representativeness level regarding the perception on organisation-wide characteristics with respect to port development. Also employed in the PoA Authority for a relatively short period.

E.4 Sensitivity test of interviewee weightings

This appendix presents the sensitivity test of the interviewee weightings. Each table shows the used weightings of the results and the opposite weightings used for the sensitivity test. The opposite weighting means that a used weighting of 1, 2 or 3 represents respectively 3, 2 and 1 in for the sensitivity test. Below ach column the plot is shown in the OCAI graph. The difference between the two graphs below each table indicates the sensitivity of the plot to the weighting system applied in this research.

Previous PoR Authority (PMV2)

Table 19 – Used weightings and sensitivity test weightings for the PMV2 (determined by researcher)

Interviewee #	Weighting of the results	Opposite weighting for sensitivity test
1	2	2
2	3	1
3	1	3
4	3	1
5	3	1
6	1	3

Average plot with used weightings

Average Plot with sensitivity test weightings
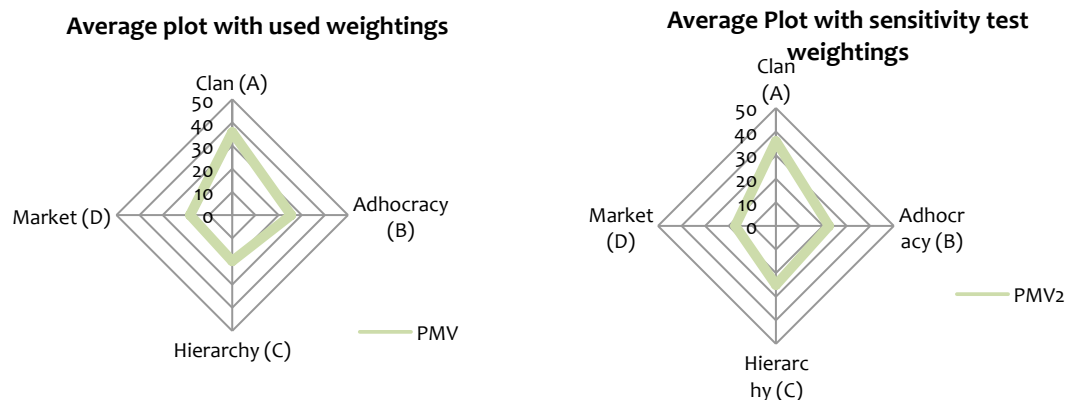
Previous PoA Authority

Table 20 – Used weightings and sensitivity test weightings for the previous PoA Authority (determined by researcher)

Interviewee #	Weighting of the results	Opposite weighting for sensitivity test
1	1	3
2	2	2
3	3	1
4	2	2

Average plot with used weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Previous

Average plot with sensitivity test weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Previous
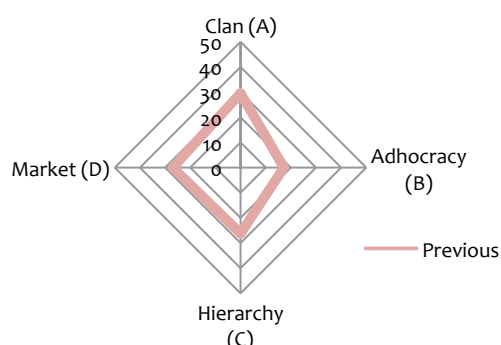
Present PoR Authority

Table 21 - Used weightings and sensitivity test weightings for the present PoR Authority (determined by researcher)

Interviewee #	Weighting of the results	Opposite weighting for sensitivity test
1	2	2
2	2	1
3	1	3
4	3	1
5	2	2
6	1	3

Average plot with used weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Present Port Authority

Average plot with sensitivity test weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Present Port Authority
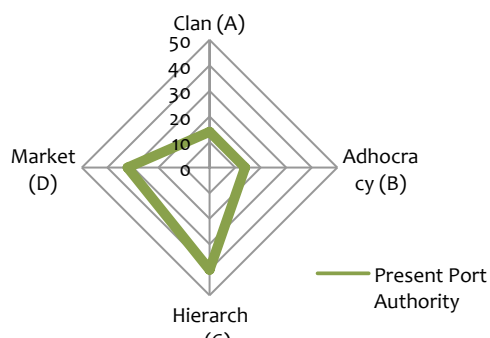
Present PoA Authority

Table 22 – Used weightings and sensitivity test weightings for the present PoA Authority (determined by researcher)

Interviewee #	Weighting of the results	Opposite weighting for sensitivity test
1	1	3
2	1	3
3	2	2
4	3	1
5	2	2
6	1	3
7	1	3

Average plot with used weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Present Port Authority

Average plot with sensitivity test weightings

Clan (A)
Adhocracy (B)
Hierarchy (C)
Market (D)
— Present Port Authority
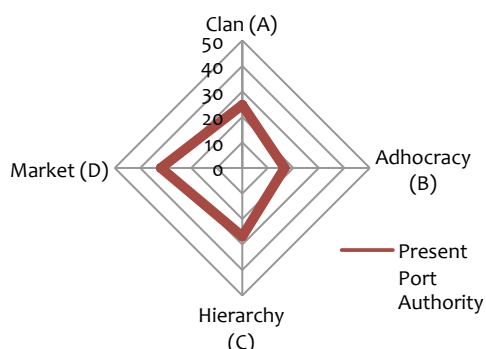
As becoming clear from the sensitivity test, the used weightings do have a visible impact on the shape of the plot. However, it seems that the general balance between the four organisational culture types does still exist when using the opposite weightings. Thereby the actual scores of the interviewees do seem to dominate the weighting system. Based on these test findings, the weighting system applied in this research can be understood as not being able to be used in a manipulative way. The effect of the weightings is a gentle emphasize of the researchers interpretation. Still, the weighting system is important to be taken into account, to acknowledge the fact that the level of representativeness of interviewee input can vary among different interviewees with different positions, focus and responsibilities within the organisation in case.

E.5 Interview results • Port of Rotterdam Authority

This part of the Appendix includes the interviewee results with respect to the Port of Rotterdam case. First the results are presented for the PMV2 and then for the present PoR Authority regarding those involved in current port development projects.

For both, first the organisational structure results of each of the interviewees are overviewed in a table. Then, the individual typifications for organisational structure are overviewed in the next table, which are used to develop the average final organisational structure typifications with.

Subsequently, the results regarding the organisational culture are provided. This starts with an overviewing sheet of the scores that the interviewees gave to the four alternatives for each of the six dimensions distinguished by Cameron & Quinn (1983). This sheet also shows how the average organisational culture plots are calculated. Then, all the identified remarks in the interview transcriptions that relate to organisational culture are overviewed in a table. This table includes a column in which each remark is linked to one of the four organisational culture types to which it seems to correspond. Then, a table follows in which all the interviewee remarks are clustered and weighted according to the weightings given to the interviewees.

E.5.1 PMV2

Organisational structure results

Table 23 – Overview (developed by researcher) of
interviewee answers on the organisational structure dimensions for the PMV2

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation
1	**Strategic apex**	**Standardization of work processes**	**Vertical and horizontal centralisation** **Limited horizontal decentralisation**
	From the 70 project members in the Projectorganisation MV2 were five Management Team members very important. The Projectorganisation had two directors who determined the strategic direction of the project. The Projectorganisation was a mix between technically and strategically focused people. The Operating Core was organised externally, so the people of the Projectorganisation did not perform operational activities. A large percentage of studies were outsourced.	The Projectorganisation MV2 works with the PRINCE2 management method, which is a very structured way of project control. This method was taken very seriously. It was being applied in a pragmatic way but also in a strickt way via risk management and issue management (Review Team). This way also lessons learned were systematically used to iteratively improve effectiveness.	The MV2 project had an exclusive link to the top of the Port Authority, to prevent that the whole Port Authority would get involved into discussions and the development of the project. Analists and specialists within the Projectorganisation MV2 did not make final decisions within the MV2 project. Decisions were made on Management Team level. In case of requests from project members, mandates and certain extent of authority were decentralised from the top. To recieve mandate, project members first had to approach the top with a detailed elaborated and argumented request in order to get approval. In case of approval, the project member had a huge responsibility on the content and budget. Along the project, the type of

			decentralisation went from very centralized control to very teamoriented control. The centralized control in the beginning was needed to create the ability in the end to let this control go and give space to a more relax way of working. Ronald Paul, the first Project Director, was the driving force behind the high control in the beginning of the project. Rene van der Plas let the centralized control go and gave the members of the Projectorganisation more space.
2	**Technostructure**	**Mutual Adjustment**	**Limited horizontal decentralisation**
	A priority of the project Director MV2 (René van der Plas) was to get the knowledge inhouse that was needed for the realisation of the MV2, to prevent becoming too dependant on others when wanting to make changes in the plans or planning for example.	A lot of collaborations work on trust-basis. Since 2004 with the new CEO Hans Smits, the organisation started to implement standardization processes in order to gain control on all employees and their responsibilities. A strong example is the mandating regulation. Mutual trust is very important within the Projectorganisation MV2. Members in this project received the space from the Management Team, but were hardly confronted in case of setbacks. A propre balance between hard and soft control. The organisation works on a well-thought system and the people work with certain working methods and procedures, but much information is shared via Mutual Adjustment.	Final decisions are made by the Management Team, but project members get a high amount of responsibility. A member can for exampe propose a scope expansion, accompanied with detailed elaboration and argumentation. This way, there is a healthy tension between the Management Team and the project members. Within a decision-making process, the Management Team leans strongly towards the experts within the Projectorganisation. A Review Team is composed including a set of experts who assessed every issue that came about. In case for example one of the project members deals with a change or problem, every expert from the Review Team looked at it to give an advice.
3	**Strategic apex**	**Standardization of work processes** **Standardization of Outputs** **Mutual Adjustment**	**Vertical and horizontal centralisation** **Limited vertical decentralisation**
	Which organisational elements has the keyrole strongly depends on the phase of the project. Such activities can also be performed parallel. External parties are very determining for the achievement of project goals. Resistance of such parties can cause delays of decades. Within the Porjectorganisation, the Board of Directors have been the driving force behind the MV2 project. The Board of Directors worked closely together to keep all the project processes in line. They determined how to deal with the project environment at all facets. For all facets, specialized project teams were composed. The Board of Directors were the people who negotiated with the contractors. There was a strong 'we' feeling, which made all elements of the Projectorganisation feel like	Mutual Adjustment is a very well represented coordination mechanism within the Projectorganisation MV2. Mutual Adjustment was very accessible among team members, among team members and Board of Directors and among the Projectorganisation and external parties. Mutual communication lines are very short and lowkey, resulting in a high amount of mutual trust. The confidence in members from Board of Directors in the Projectorganisation reached low organisational levels. Everybody works on one floor. Helping eachother and mutual coaching happened often. There was a strong supervision, but very open. Standardization was done via PRINCE2 method, the issue procedures and the monthly reporting.	The Strategic Apex of the Projectorganisation determine the direction of the projectgoals, which lower layers of the organisation take for granted. There is flxibility regarding the way towards reaching this goals, but the Strategic Apex takes the final decisions. Mandate is distributed not only within top of the organisation, but over a wider range of employees from the Projectorganisation. Also some project leaders have zero mandate, but do have the full responsibility for making decisions. The open and intensive internal communication is very important to make such decentralisation effective. Mandate was distributed within the Projectorganisation MV2, which resulted in high level of autonomy.

	having a key role.		
4	**Strategic Apex** **Technostructure** **Middle Management**	**Standardization of work processes** **Mutual Adjustment**	**Limited horizontal decentralisation**
	Strong triangular collaboration between the 3 organisational elements, Strategic Apex, Technostructure and Middle Management. The Operating Core was mostly done externally by PUMA.	The most dominant coordination mechanism within the Projectorganisation is the Standardization of Work Processes via PRINCE2 method. There was no direct supervision, but a lot of Mutual Adjustment. There were very short communication lines.	Limited Vertical Decentralisation and Selective Vertical and Horizontal Decentralisation are both most dominant within the Projectorganisation. The Management Team always took the final decisions with a large amount of input from the Technostructure and Middle Management. Department Managers who had a certain amount of decision-making power, had zero tolerance but were not required to discuss everything with the top. Trust was very important here. When looking specifically to the decision-making power within the Projectorganisation, limited horizontal decentralisation.
5	**All organisational elements have an equivalent keyrole within the PMV2**	**Standardization of outputs** **Mutual adjustment**	**Limited horizontal decentralisation**
	All organisational elements had an equivalent keyrole within the Projectorganisation MV2 to achieve final goals. If one of them would have been missing, the achievements would not have been from the quality as they are now. The success lays in the collaboration of the elements. The Strategic Top has the responsibility that all goals will finally be achieved and that the progress is communicated internally and externally of the Port Authority. The Middle Management are the linking-pin between the strategy of the Management Team and the Operating Core. Therefore, the Middle Management played a very important role during the MV2 project. The Technostructure has ensured a large part of the content of the project. Top level consultants and experts of different disciplines were taken inhouse to contribute to the content of the project. This way, the Projectorganisation in some cases depended on only one single person. These experts and consultants were involved along the whole realisation of the project. The Support Staff covers two departments; communication to properly create and maintain public support for the project and communication in order to inform	The MV2 project had very clear goals from which could be translated into very concrete actions and plannings. The main goal of the Projectorganisation was to get companies (APMT and RWG) in operation with whom the contracts were signed before the realisation of the MV2. From this goal, operational milestones were set in a timeline, which put back into milestones in order to achieve these milestones etc. These milestones lead to very concrete products to achieve these milestones. THese concrete products were defined in scopeforms. These scopeforms represent the standardization of outputs. Mutual Adjustment is represented in the quick way of handling and the easy informal mutual contacts in stead of top-down Key Performance Indicators (KPIs). When the goals are clear and standardized, Mutual Adjustment becomes more and more important. People communicated a lot about eachothers progress updates. Team member meetings with Project Leaders happened in a very informal way with the motivation to help eachother and solve problems.	When project leaders for example need extra budget, have to realise extra scope, when delays tend to emerge in the planning, or when for example extra permits are needed, then all responsibilities about the risks are decentrally located at the project leaders. Decision-making is build up bottom-up from the different departments of the Projectorganisation. Decisions are proposed to the Management Team, but the content experts who all have to assess a certain change in the project, then the expertise is brought in on bottom level. Then, this leads to a proposal for dicision-making directed to the Management Team. This way, the Management Team is highly dependant of the proposal content, which is fully prepared by the experts. The responsibility is this way fully decentralised to the experts. A decision can only be made by the Management Team when the decision proposal is prepared in the right way. This is done via issues, to which all experts have to give input from their specifik management area. In case from one expert the input is missing, the Management Team will not take the decision until the expert assessment is done completely. This represents the limited horizontal decentralisation as most representative type of decentralisation in the Projectorganisation.

	the project environment which was of high importance in order to get the public support. How the Projectorganisation had to be organisationally structured was well thought in advance of the project. The same organisational structure was maintained throughout the whole project. The different departments are Conditions and Surrounding, Design of plans and Construction, Communication and Project Management. The mutual balance among the different departments depended strongy on the certain phase of the project. The roles changed during every phase.		
6	**All organisational elements have an equivalent keyrole within the PMV2**	**Standardization of outputs** **Mutual adjustment**	**Limited vertical decentralisation**
	All disciplines within the Projectorganisation had a keyrole. The organisational structure is designed in a way that all departments (Conditions and Surrounding, Design of plans and Construction, Communication and Project Management) were in parralel hierarchy. All departments have been equally important to achieve all the successes along the project. All the descipliness are pillars of equal importance. The level above those pillars is the Management Team.	Standardization of outputs is characteristic, because people within the Projectorganisation were very results-oriented accompanied by a lot of delegation. Standardization of Work Processs was present in form of process-based approach via PRINCE2. In contrast with ther departments who controlled their work with PRINCE2 procedures, the Communication department had another way of controlling their work.	The Management Team has always been very clear, but always with a large decentralised independancy towards the lower levels of the Projectorganisation. In contrast with other organisationsin which the department of Communication is maybe less influenced by corporate strategies, in the Projectorganisation the department Communication was also an important part of the project strategy and also had a relatively large amount of decision-making power by the mandate they guarded. The Management Team does not make all the decisions. The Middle Management has relatively much decision-making power and freedom. The Middle Management team is seen as adults regarding their responsibilities.

Table 24 – Overview (developed by researcher) of the organisational structure dimension results per interviewee and the resulting structural configurations for the PMV2

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation		Structural configuration
1	Strategic apex	Standardization of work processes	Vertical and horizontal centralisation Limited horizontal decentralisation	→	Combination between a **Machine Bureaucracy** and a **Simple Structure with relatively low level of Direct Supervision** as coordination mechanism.
2	Technostructure	Mutual Adjustment	Limited horizontal decentralisation	→	A **clear Machine Bureaucracy** in combination with **Mutual Adjustment as a strong coordination mechanism**.
3	Strategic apex	Standardization of work processes Standardization of Outputs Mutual Adjustment	Vertical and horizontal centralisation Limited vertical decentralisation	→	Combination between a **Divisionalized Form with a Middle Management that does not have a significant keyrole and a relatively high amount of Standardized Processes** and a **clear Simple Structure, however with a very open form of Direct Supervision**.
4	Strategic Apex	Standardization of	Limited horizontal	→	A **clear Machine Bureaucracy** in

		work processes	decentralisation		combination with a strong **keyrole of the Strategic Apex and Middle Management** and **Mutual Adjustment** as coordination mechanism.
	Technostructure Middle Management	Mutual Adjustment			
5	All organisational elements have an equivalent keyrole within the PMV2	Standardization of outputs Mutual adjustment	Limited horizontal decentralisation	→	A combination of a **Machine Bureaucracy with mainly Standardized Outputs in stead of Standardized Processes** and an **Adhocracy with limited Selective Decentralization**. Apart from the Technostructure and Support Staff, **all other organisational elements also have a key role**.
6	All organisational elements have an equivalent keyrole within the PMV2	Standardization of outputs Mutual adjustment	Limited vertical decentralisation	→	A combination of a **clear Machine Bureaucracy** and a **clear Adhocracy**, however with **also the Strategic Apex, the Operating Core and the Middle Line having a keyrole**.

Organisational culture results

Table 25 – Overview (developed by researcher) of interviewee scores on the organisational culture dimensions for the PMV2

Dimension #	Dimension	Interviewee	% Clan (A)	% Adhocracy (B)	% Hierarchy (C)	% Market (D)
1	Dominant characteristics	1	15	15	50	20
		2	30	30	20	20
		3	10	30	50	10
		4	30	30	20	20
		5	20	25	40	15
		6	10	40	30	20
		Average:	**19**	**28**	**35**	**18**
2	Organisational leadership	1	20	10	50	20
		2	40	30	10	20
		3	10	30	50	10
		4	25	25	25	10
		5	30	30	10	30
		6	25	30	30	15
		Average:	**25**	**26**	**29**	**18**
3	Management of employees	1	70	20	10	0
		2	40	40	10	10
		3	40	50	10	0
		4	60	30	0	10
		5	40	40	10	10
		6	40	0	50	10
		Average:	**48**	**30**	**15**	**7**
4	Binding mean within organisation	1	70	10	20	0
		2	40	40	10	10
		3	60	10	30	0
		4	50	20	20	10
		5	50	10	30	10
		6	10	10	50	30
		Average:	**47**	**17**	**27**	**10**
5	Strategic focus	1	30	10	50	10
		2	30	30	20	20
		3	30	20	20	50
		4	10	40	10	40
		5	50	20	10	20
		6	20	10	40	30
		Average:	**28**	**22**	**25**	**28**
6	Criteria for success	1	20	20	0	60

		2	50	20	10	10
		3	80	0	0	20
		4	30	50	0	20
		5	30	15	5	50
		6	40	10	50	0
		Average:	**42**	**19**	**11**	**27**
		Sum (total of responses)	215	153	119	109
		Average (sum devided by 6)	**36**	**25**	**20**	**18**

Table 26 – Overview (developed by researcher) of interviewee remarks about organisational culture of the PMV2

Interviewee	Remark	Fits with culture type	Other remarks
1	from the start a family culture	Clan	
	being the best and proud of being included	Clan	
	everybody felt high commitment to the project	Clan	
	high expectations of skills	Market	
	everybody works hard and together	Clan Market	
	never a employee conflict	Clan	
	very different from rest of Port Authority	/	Very different from rest of Port Authority
	high mutual trust from MT to project team members, which reduced hierarchical structures	Clan	
	in the beginning the projectmembers worked under centralized control, which was confronting and tough in the beginning. With the new Project Director the work atmosphere was more relaxed.	Market (at the beginning) Hierarchy	
	collaboration improved after the personality-colour studies done on management level.	Clan	
2	The people who worked in the PMV2 were provided and created the freedom from the Management Team to autonomously manage their business. This made the consequences larger, which represented a hard side of the organisation.	Adhocracy	
	Mutual trust is a very important characteristic of the Projectorganisation.	Clan	
	Clout (impact force) was a strong characteristic of the Projectorganisation.	Adhocracy Market	
	Everybody wants to help eachother out in case somebody struggles with an issue. The threshold to approach the Project Leader in case of an issue is low. There is a strong 'we' feeling. Responsibilities were felt by everyone and not only by the Project Leader. This stimulates mutual involvement among employees.	Clan	
	Mentality of knowledge sharing is stimulated within the Projectorganisation.	Clan	
	One team, one goal' mentality. This stimulated people to work together.	Clan	
	People within the Projectorganisation have a high level of mutual respect and acknowledgement of eachothers importance of involvement.	Clan	
	Mutual competitiveness is not present within the Projectorganisation. People wish for eachothers successes.	Clan	
	Project Leaders within the Projectorganisation try to get the best out of their teams, without the motivation of claiming the credits.	Clan	
3	Among the operational and administrative services of the Projectorganisation there was sometimes a difference in mentality. Both could level with each other though, there was a healthy tension.	Clan	
	Everybody clearly works for the same goal, there is no demarcated-responsibilities-mentality.	Clan	
	The Projectorganisation is like a close family in which	Clan	

	everybody became together 1.			
	People were dynamic, the Projectorganisation was an entrepreneurial place in which everybody wanted to finish their work and everybody dared to stick their necks out.	Adhocracy	
	Project Director MV2 Ronald Paul was directive, 'black or white' and in case of a drawback he drove the mentality of 'going for it' and 'we will not let this cause failure of the project'.	Market	
	culture can be described as no-nonsense, very driven and results-oriented	Market	
4	People of the Projectorganisation dared to approach and confront eachother.	Adhocracy	
	In case of a drawback, people within the Projectorganisation quickly repacked themselves and had a strong mentality of thinking in solutions. In such cases, the focus was on the work and deliverables in stead of playing hard on the man.	Adhocracy Clan	
	People of the Projectorganisation share the mentality that things are possible if you really want it, but with a sharp focus on the possible consequences.	Adhocracy Market	
	People of the Projectorganisation are sincerely thankfull for eachothers help.	Clan	
	Real successes were internally celebrated (with for example parties or treats) within the Projectorganisation. Some successes or milestones were even celebrated together with external relations of the Projectorganisation.	Clan	
	People of the Projectorganisation were required to be flexible regarding every new phase of the project among which the most suitable way of working could be different. People had to be able to quickly mind-switch and continue in case of changing context.	Adhocracy	
	People of the Projectorganisation reassured eachother in case of critical or exciting times. They maintained an optimistic and positive mentality in their work.	Clan Adhocracy	
	The culture within the Projectorganisation is very personal; people care about eachothers personal lives and are involved and compassionate in case of something important. This made people feel like they could share their personal problems that could have great impact on the effectiveness of their work.	Clan	
	People of the Projectorganisation are very willing to do their job and achieve goals, only not at the expense of each other and the surrounding in which they operate. So people were not competitive to eachother.	Clan Market	
	The contrasting characters of the MV2 Project Directors were clearly different, but very complementary and effective.	/	Mix of Director types seemed to form a very complementary and effective culture
5	The Projectorganisation is a very flat organisation regarding its hierarchy.	Hierarchy	Clear hierarchical structure, but flat
	People of the Projectorganisation have a results-oriented mentality, but not in an aggressive way.	Market	But nog agressive
	The Projectorganisation was very dynamic and entrepreneurial, regarding the speed and complexity by which the work can be characterized.	Adhocracy	
	People of the Projectorganisation dared to take risks.	Adhocracy	
	Within the Projectorganisation a collective pride is a binding factor.	Clan	
	People of the Projectorganisation were very loyal to the project and eachother, represented by their high level of commitment to the MV2 Project.	Clan	
	The Projectorganisation aimed to be a learning organisation that keeps improving itself. Focus was also on the personal development of people and maintaining trust, openess and participation.	Clan	
	The Projectorganisation is not characterized by having demarcated responsibilities. People are willing to take up tasks and help eachother out. Task descriptions are actualy quite short, representing the flexibility in activities in which one person can be involved.	Clan	
	Because of high mutual trust, people of the Projectorganisation do not unfavorably interfere with eachothers responsibilities.	Clan	

6	The Projectorganisation can be described as a smooth, dynamic and professional.	Adhocracy	
	Along the whole MV2 project, people within the Projectorganisation were in good harmony.	Clan	
	All people from the Projectorganisation had the same focus in the project.	Clan	
	People of the Projectorganisation are willing to take risks and dare to stik out their necks.	Adhocracy	
	People of the Projectorganisation were not competitive towards eachother, but was very results-oriented together.	Clan Market	
	The Projectorganisation can not be characterized by a large family, but people are already long time involved. They stay commited to the project and to the team.	Clan	
	People of the Projectorganisation did not take individual risks. Everybody felt equally responsible for the final results.	Clan	
	The Projectorganisation is very results-oriented, but with a very humane character.	Market	But very humane character
	The strong contradiction among the different directors of the Projectorganisation has always been very determining for the organisational culture.	/	Mix of Director types seemed to form a very complementary and effective culture
Other interviewee not from PMV2	The Projectorganisation had access to a sufficient space in time, all the resources they needed to let nothing stand in the way of making progress and had a 100% focus on the MV2 project. This creates a culture in which you have maximum control over everything.	Adhocracy Market	Sufficient accessibility to resources (time, money etc), creating a culture of maximum control
	Because the Projectorganisation often gave instructions within other departments of the Port Authority, a culture arised within the Projectorganisation that can be characterised as being superior and dominant. These instructions seemed to weight up to the proceedings of the projects within the Port Authority. Somebody within the Port Authority with equal expertise as somebody of the Projectorganisation operated near to one another, but both had a complete different effect on the organisation. This was also logical in the sense that the Projectorganisation coped with very complex cases.	Adhocracy Market	Culture of being dominant and superior
Other interviewee not from PMV2	The large difference between the Port Authority and the Projectorganisation is that the latter consists of a high percentage of temporarely hired people in stead of permanent people. The hired people are more project and short-term focused.	Adhocracy	Temporarely hired employees
	The Projectorganisation is mainly a result-oriented organisation. This is probably because of the high financial investments that were required for the project. The job to be done was actually very clear. The focus was especially on intensive control that this job would indeed be done as planned.	Market	
	Teambuidling was a prior focus within the Projectorganisation. People wanted to achieve goals together.	Clan	
	The Projectorganisation looks like the Port Auhtority, only then with a relatively clear and specific goal.	Market	

The remarks presented in previous table are clustered and categorized per organisational culture type. For each remark is determined whether it adds up or is opposite to the type. Also the total weight is calculated with respect to the interviewee weightings. The final overview is presented in upfollowing table.

Table 27 - Overview (developed by researcher) of categorized remarks from PMV2 and PoR Authority interviewees that are explanatory for the organisational culture plot shape of the PMV2

Culture Type	Adds up (+) Opposite (-)	Explanatory remarks from interviewees	Total weight of remark
Clan	+	High mutual trust from Management Team to project team members, which reduced hierarchical structures	2
	+	Mutual trust is very important characteristic, people to not unfavourably interfere with	6

		eachothers responsibilities.	
	+	Everybody works together	3
	+	Never an employee conflict	2
	+	Collaboration improved after personality-colour studies done on management level	2
	+	Everybody wants to help eachother out in case somebody struggles with an issue. The treshold to approach Project Leader is low. There is a strong 'we'-feeling and responsibilities are felt by everyone instead of only by the Project Leader. This stimulates mutual involvement among employees.	3
	+	Mentality of knowledge sharing is stimulated	3
	+	'One team, one goal' mentality. People had the same focus in the project. This stimulates people working together.	4
	+	High level of mutual respect and acknowledgement of eachothers importance and involvement.	3
	+	Mutual competitiveness is not present; people wish for eachothers successes.	7
	+	Project Leaders try to get the best out of their teams, without the motivation of claiming the credits.	3
	+	Sometimes different mentality among operational and administrative services, but both could level well. There was a healthy tension.	1
	+	Everybody clearly works for the same goal; there is no demarcated-responsibilities-mentality. People are very results-oriented together.	2
	+	The Projectorganisation is like a close family in which everybody became together 1.	3
	+	In case of a drawback, people quickly repacked themselves and had a strong mentality of thinking in solutions. In such cases, the focus was on the work and deliverables instead of playing hard on the man.	3
	+	People are sincerely thankfull for eachothers help.	3
	+	Real successes were internally celebrated. Some successes or milestones were even celebrated together with external relations.	3
	+	People reassured eachother in case of critical or exciting times. They maintained an optimistic and positive mentality in their work.	3
	+	Culture is very personal; people care about eachothers personal lives and are involved and compassionate in case something happens. People could share their personal problems.	3
	+	People are very willing to do their job and achieve goals, only not at the expense of each other and the surrounding in which they operate.	3
	+	Collective pride is a binding factor	5
	+	People are very loyal to the MV2 project and to eachother, represented by their high level of commitment.	6
	+	PMV2 aims to be a learning organisation that keeps improving itself. Focus is on personal development and maintaining trust, openness and participation.	3
	+	No demarcated responsibilities. People are willing to take up tasks and help eachother out. Task desciptions are short, representing flexibility in activities.	3
	+	People of the PMV2 are in good harmony.	1
	+	People of the PMV2 do not take individual risks; everybody felt equally responsible for final results.	2
	+	Teambuilding was a prior focus in the PMV2	1
Adhocracy	+	People of the PMV2 were provided and created freedom from management to autonomously manage their business. This made consequences larger.	3
	+	Clout (impact force) was a strong characteristic of the Projectorganisation	3
	+	People are dynamic. PMV2 is an entrepreneurial place in which everybody wanted to finish his or her work. Everybody dared do stick out their necks.	2
	+	People of the Projectorganisation dared to approach and confront eachother.	3
	+	In case of a drawback, people quickly repacked themselves and had a strong mentality of thinking in solutions. In such cases, the focus was on the work and deliverables instead of playing hard on the man.	3
	+	People of the Projectorganisation share the mentality that things are possible if you really want it, but with a sharp focus on the possible consequences.	3
	+	People were required to be flexible to every new phase of the project. People had to be able to quickly mind-switch and continue in case of changing context.	3
	+	In case of critical or exciting times people maintained an optimistic and positive mentality in their work.	3
	+	PMV2 is dynamic and entrepreneurial regarding the speed and complexity by which the work can be characterized.	3
	+	People dare and are willing to to take risks	4
	+	PMV2 can be described as smooth, dynamic and professional	1
	+	PMV2 had a 100% MV2 project focus	1
	+	High % of temporarily hired external people instead of permanent people. Hired external people are more project-focused and short-term focused.	1
Hierarchy	+	PMV2 is a very flat organisation regarding its hierarchy. It has a clear and simple hierarchical structure, but flat.	3

	-	High mutual trust from Management Team to project team members, which reduced hierarchical structures	2
Market	+	High expectation of skills	2
	+	Everybody works hard	2
	+	Clout (impact force) was a strong characteristic of the PMV2	3
	+	Project Director MV2 Ronald Paul was directive, 'black or white' and in case of a drawback he drove the mentality of 'going for it' and 'we will not let this cause failure of the project'.	1
	+	Culture can be described as no-nonsense, very driven and results-oriented. Focus was especially on intenive control on that the job would indeed be done as planned.	2
	+	People of the PMV2 share the mentality that things are possible if you really want it, but with a sharp focus on the possible consequences.	3
	+	People of the PMV2 have a results-oriented mentality, but not in an aggressive way. Very resuls-oriented, but with a very humane character.	5
	+	PMV2 looks like the PoR Authority, only then with a relatively clear and specific goal.	1
	+	PMV2 had a culture of having maximum control over everything and not letting anything stand in the way of making progress, due to the access to resources (time, money, etc.). PMV2 had a superior and dominant culture with regard to rest of Port Authority.	1
	+/-	In beginning of the project project members worked under centralized control, which was confronting and tough in the beginning. Along the project it became more relaxed.	2
		Other remarks	
		The contrasting characters of the MV2 Project Directors were clearly different, but very complementary and effective. This was very determining for the organisational culture.	4
		Many departments within the PoR Authority operated as isolated kingdoms with demarcated responsibilities. Everybody was very protecting and hold on to strickt procedures to follow before mutual help took place.	1
		The superior and dominant culture of PMV2 in some cases causes a culture within the PoR Authority in which this superiority is not always accepted.	2

E.5.2 Current PoR Authority

Organisational structure results

Table 28 – Overview (developed by researcher) of
organisational structure dimension results regarding the current PoR Authority

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation
1	**Middle management**	**Standardization of work processes**	**Limited vertical decentralisation**
	The link between the Operating Core and the Strategic Apex does not seem to be effective because of the Middle Management in between. There is a vacuum between potential ideas from the top (top-down) and the Operating Core (bottom-up).	Coordination mechanism is politically driven. Examples are KPIs as effectiveness indicators and the strong delineation of responsibilities. Limited Mutual Adjustment in information sharing among departments. People rather keep information for themselves. Examples of standardization are standardized work processes via SAP (control system dor project management), standardized skills and standardized outputs (return in investment is a must). Also the PRINCE2 project management method is rolled out within the Port Authority. Strategic Environmental Management (SOM) is also implemented organisation wide within the Port Authority.	Allmost all issues that come about during projects are discussed in the meetings of the top. Every director assesses the certain issues. These processes are sometimes slow and inefficient. The power lays for a significant part in the Middle Management. The Strategic Top of the organisation does have the decision-making power when it comes to strategic decisions, but the Middle Management in the end is determining for the entent of which this strategy will actually be realised. The Operating Core does not have any power. Mandating regulation in order to keep control of the authorization and responsibilities of managers. The Operating Core and some project managers have no mandate, so have zero tolerance. All decisions have to be communicated to higher levels within the organisation. Project members can ask their managers for mandate. They have to prepare an mandate proposal for the concerning

			department director.
2	**Strategic apex**	**Direct supervision** **Standardization of outputs** **Mutual Adjustment**	**Limited vertical decentralisation** **Selective vertical and horizontal decentralisation**
	Also the Technostructure is a very important organisational element of the Port Authority. The Government frequently consults the Port Authority to provide expertise from specialists for certain projects. The Technostructure is therefore a differentiating factor of the Port Authority. However, the Strategic Apex is important to define the vision of the Port Authority in which the Technostructure operates. Within the organisation, the final quality of ouputs is determined by the quality of the top of the Port Authority since they determine the direction of the organisation.	In the department of Environmental advice, the PRACI matrix is used to define new projects and create an overview of the departments and experst needed for each of the different realisation phases. This is an example in which standardization of work processes, products and outputs and mutual adjustment come together. In case of investment projects, Mutual Adjustment among departments and within departments in project teams takes place before the top of the Port Authority is asked to make a decision. The project teams perform Mutual Adjustment with external parties, they do the negotiations with clients and maintain the contacts. A detailed business case is defined by the project team, including the boundary conditions. Then, the plan is proposed to the top of the Port Authority. In case of sudden changes strickt procedures are followed according to the PRINCE2 methodology	A very clear defined mandating structure is organised within the Port Authority, representing vertical decentralisation. This structure is followed with portdevelopment projects. Within certain decided boundaries, the top of the organisation is autorized to make the decisions during such projects. But when decisions include aspects that exceed these boundaries, the plans have to be proposed to the Supervisory Board. These boundaries include the financial investment (top can decide up to 5 mlj.), the amount of hectares the portdevelopment concerns and the impact on the image of the Port Authority. Horizontal decentralisation happens within departments of the Port Authority, in which experts are given the freedom to perform their work and make decisions. When decisions exceed a certain amount of (potential) impact, higher levels within the line of authority are approached, restricting the horizontal decentralisation. In some cases, even the top of the organisation is involved. Depending on the department, the accent is more on Limited Vertical Decentralisation or more on Selective Vertical and Horizontal Decentralisation. The project teams have decision-making power and responsibilities to a certain level. When a certain project modification asks for new investments, the project team has to prepare a modification proposal that has to be approved by the Project Board. Initiatives or proposals from lower levels in the Port Authority are not always recognized by the top of the organisation. An example are the outdated ICT systems. The attention of the top was for a long time not focused on the needed improvement of these ICT systems, resulting in the Port Authority lacking behind on their ICT compared to other public organisations.
3	**Strategic apex**	**Standardization of work processes**	**Vertical and horizontal centralisation**
	The Middle Management has a decreasing influence on the final outputs in project development processes. The Strategic Apex has a key role within the organisation. The Technostructure are relatively influential, since they provide important data	A number of departments is PRINCE2 certified. A large amount of time is spend on filling in forms. The amount of standardization via PRINCE2 is increasing throughout the Port Authority.	Slowly changing in the recent years towards vertical and horizontal decentralisation. But the final decisions are being made in the Strategic Apex. Sometimes unexpected decisions are made by the Strategic Top that do not logically follow from the preparations that lower levels of the organisation performed. This decision-making behaviour shows the vertical and horizontal centralisation the Strategic

	to base strategies on. More often bottom-up initiatives come from the Operating Core. The Strategic Apex is open for bottom-up input from the different departments.		Apex. Generally the Strategic Apex is well informed about the content of projects and can thereby also have influence on this content.
4	**Strongly depends on specific department**	**Standardization of work processes** **Mutual Adjustment**	**Vertical and horizontal centralisation** **Selective vertical and horizontal decentralisation**
		The Port Authority has a mix of coordination mechanisms. For example in the department Harbourmasters processes and work are standardized and within the Commercial department Mutual Adjustment is especially characteristic. Within the departments of Asset Management and Port Development there is a combination of Standartization of Work Processes and Mutual Adjustment. The department Corporate Strategy has a more free role. The type of coordination differs strongly per discipline.	Different types of decentralisation are represented within the Port Authority. There is not one type that is most typical. The Strategic Top decides what will happen and in the other organisational elements how. The Board of Directors has the final responsibility. Power for financial issues or signing contracts is always delegated top-down. Managers of certain departments have quite some freedom, but with a final dominance of the Board of Directors. The Board of Directors have quite some confidence in heads of departments.
5	**Technostructure**	**Standardization of work processes** **Mutual adjustment**	**Limited vertical decentralisation**
	The specialists and analists of the Technostructure are the people of the organisation who are the driving force behind port development. Example is in the commercial department in which the analists have a dominant role. They determine direction of commercial focus and think for example of certain regulations missing for certain port development scenarios. The Technostructure gets much freedom and large amount of own responsibilities. The Technostructure receives a lot of trust from the rest of the Port Authority. Within the Operating Core also specialists are active, only then focused on the performance of the operational services.	Coordination mechanism within the Port Authority is a combination of the different types. Standardization of processes is a coordination mechanism within the Port Authority. For example procedures are developed for the process in which new clientprojects are initiated and for determining which departments will be involved. Also macro-forms are developed for the concept-idea phase of projects. The department Port Development is responsible for project management. For project management more and more procedures are being developed. Business Developers do not work with such procedures. Implementation of procedures is clearly increasing in the recent years. Mutual Adjustment takes place among employees. This seems to be one of the most important coordination mechanism before a certain proposal is submitted to the Board of Directors. After the submission, the plans are restricted by more formal regulations. Approaching the Board of Directors therefore is the final step, when really necessary. So in the prelimenary phase Mutual Adjustment is important. The Mutual Adjustment is accessible and informal.	Responsibilities are delineated per department, which results departments having different specialized responsibilitis and decision-making powers with clients. This is inherent to the organisational structure represented in the organogram. Responsibilities and decision-power delineation is organized quite clearly within the Port Authority. In projects that ask for financial investment, the division distribution of decision-making power strongly depends on the size of the investment.
6	**Strategic apex**	**Standardization of work processes** **Mutual adjustment**	**Vertical and horizontal centralisation** **Limited vertical decentralisation**

			Proposals to the Board of Directors about for example housing, environmental regulations, what issues are proposed to the government, consultations in the region come from the staff or line from the organisation. Only after approval, the people from staff and line have the commitment to execute the plans. This represents the Vertical and Horizontal Centralisation.
	The top management in relation of the vision and ambitions of the organisation have the key role within the Port Authority. In the Strategic Apex the direction of development is being determined. This happens in dialogue in varying smoothness with respect to the rest of the organisation. Port development projects are usually initiated by the Strategic Apex.	The Port Authority is a very task oriented organisation with clearly layered goal definition. The Strategic Apex has a clear vision, which results in numerous standardizations of work processes that are focused on executing the vision as successful and effective as possible. Therefore, the Standardization of Work Processes is a very important coordination mechanism. Mutual Adjustment happens to discuss and decide about what plans are 'needs' and what plans are 'nice', determining the priority of investments.	The decentralisation of decision-making power is always decided by the top of the organisation. The role of the Middle Management is to prepare proposals for the Board of Directors and to manage the execution of the approved plans. Limited Vertical Decentralisation is represented in the informal hierarchy of the organisation. The Vertical and Horizontal Centralisation is represented in the formal hierarchy. Key decisions are formalised and sub-decisions may be made within departments.

Table 29 - Overview (developed by researcher) of the organisational structure dimension results per interviewee and the resulting structural configurations for the current PoR Authority

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation		Structural configuration
1	Middle management	Standardization of work processes	Limited vertical decentralisation	→	A **clear Divisionalised Form in combination with Standardized Work Processes**.
2	Strategic apex	Direct supervision Standardization of outputs Mutual Adjustment	Limited vertical decentralisation Selective vertical and horizontal decentralisation	→	A combination of **Divisionalized Form with the Strategic Apex as keyrole in stead of the Middle Management** and an **Adhocracy with also the Strategic Apex as keyrole in stead of the Support Staff.**
3	Strategic apex	Standardization of work processes	Vertical and horizontal centralisation	→	A **clear Simple Structure with Standardization of Work Processes** as coordination mechanism in stead of Direct Supervision.
4	Strongly depends on specific department	Standardization of work processes Mutual Adjustment	Vertical and horizontal centralisation Selective vertical and horizontal decentralisation	→	A **clear Adhocracy in combination with a Standardization of Work Processes** as coordination mechanism **and a strong Vertical and Horizontal Centralization** as type of decentralisation.
5	Technostructure	Standardization of work processes Mutual adjustment	Limited vertical decentralisation	→	A **clear Machine Bureaucracy with a high level of Mutual Adjustment(in the preliminary phase of a project).**
6	Strategic apex	Standardization of work processes Mutual adjustment	Vertical and horizontal centralisation Limited vertical decentralisation	→	A **Simple Structure with Standardization of Work Processes and Mutual Adjustment (in the preliminary phase of a project) instead of Direct Supervision** as coordination mechanism. In **formal hierarchy Vertical and Horizontal Centralisation** as type of decentralisation and in **informal hierarchy Limited Vertical Decentralisation** as type of decentralisation.

Organisational culture results

Table 30 – Overview (developed by researcher) of the organisational culture dimension scores from the interviewees of the current PoR Authority

Dimension #	Dimension	Interviewee	% Clan (A)	% Adhocracy (B)	% Hierarchy (C)	% Market (D)
1	Dominant characteristics	1	0	10	30	60
		2	25	15	25	35
		3	10	30	40	20
		4	10	20	30	40
		5	20	10	40	30
		6	0	10	80	10
		Average:	**11**	**16**	**41**	**33**
2	Organisational leadership	1	0	0	70	30
		2	15	15	50	20
		3	30	10	30	30
		4	10	20	50	20
		5	0	0	30	70
		6	25	25	25	25
		Average:	**13**	**12**	**43**	**33**
3	Management of employees	1	10	0	60	30
		2	25	15	20	40
		3	60	30	10	0
		4	30	30	10	30
		5	30	0	0	70
		6	40	30	30	0
		Average:	**33**	**18**	**22**	**28**
4	Binding mean within organisation	1	0	0	70	30
		2	20	10	35	35
		3	5	30	60	5
		4	25	25	25	25
		5	0	0	50	50
		6	30	20	40	10
		Average:	**13**	**14**	**47**	**26**
5	Strategic focus	1	0	10	80	10
		2	25	15	15	45
		3	10	30	40	20
		4	25	25	25	25
		5	0	0	40	60
		6	20	10	40	30
		Average:	**13**	**15**	**40**	**32**
6	Criteria for success	1	10	10	50	30
		2	15	15	40	30
		3	5	20	60	15
		4	10	30	40	20
		5	0	0	40	60
		6	20	20	30	30
		Average:	**10**	**16**	**43**	**31**
		Sum (total of responses)	93	90	235	182
		Average (sum devided by 6)	**16**	**15**	**39**	**30**

Table 31 – Overview (developed by researcher) of Interviewee remarks about organisational culture of the current PoR Authority

Interviewee	Remark	Fits with culture type	Other remarks

1	Before the Port Authority became an autonomous organisation in 2004, the organisation was quite similar to how the Projectorganisation MV2 can be characterized in the sense that a lot happened on the basis of trust. After 2004 the new CEO introduced a more strickt way of working, which resulted in standardization of processes to gain control on what everybody was doing.	Hierarchy	Shift since new CEO
	In case of an issue, many people are involved and feel willing to give his/her opinion about it before a decision can be made. So in case of a decision document, multiple layers within the organisation are involved in the decision making process. This represents a culture in which innovation is counteracted.	Opposite of Clan Hierarchy	Lack of mutual trust
	The strong system in the Port Authority counteracted new ways of working.	Opposite of Adhocracy Opposite of Clan	Lack of mutual trust
	Pride is sometimes a counteracting power for change in the Port Authority. Sometimes this leads to miscommunication in for example meetings in which decisions are being made under the invalid assumption that everybody understands the case in the same way.	Opposite of Clan	
	The threshold for a project team member to approach the Project Manager in case he or she struggles with an issue is quite high.	Opposite of Clan	
	Responsibilities are very demarcated among departments and project leaders, resulting in a lack of 'we' mentality. Project Leaders stand alone. This stimulates limitations in mutual involvement.	Opposite of Clan	
	Mentality of keeping knowledge for yourself instead of sharing it. Overall, sharing of knowledge is not stimulated within the Port Authority.	Opposite of Clan	
	The Port Authority can be characterized as a political organisation with a politic mentality, representing employees who are driven by their own interests and goals.	Opposite of Clan	Political driven organisation Political mentality
2	In general, people feel free for chatting on work floor, but at the same time work has clearly the main priority.	Bits of Clan Hierarchy	
	Project teams within the Port Authority do not have standard access to a sufficient space in time and all the resources they need to let nothing stand in the way of making progress and a 100% focus on only one single project. This creates a culture in which you do not have maximum control over everything. The amount of control a team has over the situation in which they operate, together with the assumptions and conditions in this situation, could be determining for the culture that the team represents. This way, culture is strongly determined by the conditions that are created to let a certain culture arise.	Adhocracy	
	The instructions of the Projectorganisation to other departments within the Port Authority seemed to weight up to the proceedings of the projects within the Port Authority. Somebody within the Port Authority with equal expertise as somebody of the Projectorganisation operated near to one another, but both had a complete different effect on the organisation. This results in respectively a superior culture and a culture in which this superiority is not always accepted. This culture difference was strongest in times when the MV2 Project was under high pressure. Nowadays, this culture difference is significantly decreased.	/	PMV2 has a superior culture Departments of the Port Authority have a culture in which superiority is not always accepted
	In the Port Authority, the culture that arises among people strongly depends on the certain mission and mandate of the project in case. The culture is strongly determined by the priority of the organisation, which influence decisions and the resources that are or are not made available.	Adhocracy	
3	In the first instance, people of the Port Authority are afraid for internal changes within the organisation and tend to complain and resist. But this fades away as soon as they experience the benefits and logics for the organisation.	Hierarchy	
	The Port Authority currently is a quite unwieldy organisation with a municipal character. Small reorganisations now slowly decrease this character.	Slow decrease of hierarchy	Municipal character
	Before, many departments within the Port Authority operated as being isolated kingdoms with demarcated responsibilities.	Hierarchy	Port Authority in the past

	Everybody was very protecting. People hold on to strickt procedures to follow before mutual help took place.		
	The Port Authority can not clearly be characterized as being dynamic and creative.	Opposite of Adhocracy	
	In general, people find the Port Authority a great place to work in and for.	/	In general, people are content with the Port Authority as their employer
	People of the Port Authority tend to maintain their control, which result in creation of a controlled and structured environment.	Hierarchy Market	
	The management of the Port Authority does not seem to be characterized by being mentor, facilitator and stimulator for the employees.	Opposite of Clan	
	Level of innovativeness, entrepreneurship and daring to take risks is slowly increasing within the Port Authority.	Slowly increasing Adhocracy	
	The management of the Port Authority is intented to show coordination, organisation and smooth efficient, but this does not seem to clearly appear in practice.	Aim for Hierarchy	Intention to have coordinating, organising and smooth efficiency management, but not yet strong
	The Operating Core of the Port Authority is represented by relatively young people, younger than 35. The Middle Management is a thick layer, represented by people who already work long time at the Port Authority. There is not much flow regarding the Middle Management positions. Middle Managers are not very triggered to change their positions. Middle Managers are therefore not strongly characterized as being dynamic and entrepreneurial.	Hierarchy	
	Sometimes it seems that the Middle Management prefers to stay within the comfort zone.	Hierarchy	
	The Port Authority seems to be risk avoiding. When ambigious plans do not seem to work out, people from the Port Authority are likely to adapt their ambitions instead of adapting the horizon. (By adapting the horizon, different approaches could be thought of to still achieve the planned goals.)	Hierarchy	
	A coherent goal among the different departments of the Port Authority seems to be missing. Departments are often still mainly driven by their own goals and intrests.	Opposite of Clan	
4	The Port Authority is turning into an more and more controlled and structured place with formal procedures that determine what people do. This tends to show that controle becomes more important than taking risks. Focus on control is becoming quite dominant.	Opposite of Adhocracy Market Hierarchy	
	There is a focus within the Port Authority to let employees develop to improve performance. The management style can be characterized as one in which employees are stimulated to improve and develop. Employees are seen as the most important asset, in which large amount of time and financial investments are done to have a better result. Employees are offered education, meetings, performance reviews, tests etc. in order to improve the performance.	Clan Market	
	Pride is a organisational wide binding factor among people of the Port Authority.	/	Pride is a binding factor
	The binding factor is different for every department. This makes it hard to identify an organisation wide culture for the Port Authority.	/	Binding factor strongly differs per department
	It seems that the Port Authorty has a mentality mix in which humanity is central priority, long-term focus and new resources and continuity. This represents the 'People, Planet, Profit' mentality.	/	People/Planet/Profit mentality
	The PMV2 looks like the Port Auhtority, only then with a relatively clear and specifik goal.	/	PMV2 is like market
	The difference between departments of the Port Authority in focus-term (short-term/long-term) probably determines the culture within the department, since certain types of people are the best fit for certain types departments.	Adhocracy	
	Everybody within the Port Authority is proud of working for the Port of Rotterdam and has feeling with the organisation. Everybody has the feeling that he/she is able to create added value for the organisation.	Clan	

	5	The Port Authority can be characterized as being risk-avoiding. This means that as long as people operate as a team, responsibilities are shared over this whole big group.	Hierarchy	
		There is a lack in interaction between departments of the Port Authority. It seems that different departments are focusing on different goals. The individual departments seem like effective organisations, but together as a total Port Authority the effectiveness is lower.	Opposite of Clan	
		Within the Port Authority a lot of procedures are standardized. Everybody is required to work according to these procedures. This is done to improve efficiency within the organisation. In some cases following the procedure seems to be more important than the quality of the content. People find the procedures important in order to maintain a smooth organisation.	Hierarchy	
		Loyalty and mutual trust does not seem like a very representative characteristic of the Port Authority.	Opposite of Clan	
		Regarding the strategic focus of people in the Port Authority, it seems that in some cases jealousy is playing a role between different departments.	Market	Internal competitiveness
		Within the Port Authority there is no emphasis on personal development and maintenance of trust, openess and participation.	Opposite of Clan	
		Within the Port Authority there is no specific focus on obtaining new resources for creation of new challenges.	Hierarchy	
		The Port Authority has transferred in the recent years from an organisation in which proud people work with high loyalty towards the port, towards an organisation that is way more business-oriented. People seem to be less personally commited with the Port Authority. The Port Authority as entity that has to make profit is now more in the picture. Nowadays, there is a shared loyalty, partly to the port and partly to the Port Authority. This is partly because the Port Authority has privatised.	Decrease of Clan Market	
	6	The Port Authority can best be described as a task-oranisation.	Hierarchy	
		Within the Port Authority standards are high.	Market	
		Mutual trust and loyalty is a clear characteristic of the people of the Port Authority.	Clan	
		People find the Port Authority a pleasant environment to work in, shown by the fact that people stay employed for relatively long time.	Clan	
		Pride to the port is an important driver for a lot of people in the Port Authority. People are binded with the main vision and all want to develop the PoR to an excellent level.	Clan	
		The people within the PoR Authority strive for the succes of the PoR. They are fanatical and do not take a loss in profit for granted.	Market	
		People within the Port Authority feel more challanged now compared to the period during and before the privatisation of the Port Authority. This has changed the mentality and thereby the culture within the Port Authority.	Market	
Other interviewee not from the current PoR Authority		The mentality within the Port Authority sometimes strongly characterizes itself with machoism and demarcated responsibilities. This means that the motto to 'work together for the same company and goal' is sometimes not well represented.	Opposite of Clan	
Other interviewee not from the current PoR Authority		Culture of the Port Authority is associated with the characteristics of a political game.	/	Culture is associated with political game
		Because of low mutual trust, people of the Port Authority, people interfere with eachothers responsibilities.	Opposite of Clan	

The remarks presented in previous table are clustered and categorized per organisational culture type. For each remark is determined whether it adds up or is opposite to the type. Also the total weight is calculated with respect to the interviewee weightings. The final overview is presented in upfollowing table.

Table 32 - Overview (developed by researcher) of categorized remarks from PMV2 and PoR Authority interviewees that are explanatory for the organisational culture plot shape of the present PoR Authority

Culture Type	Adds up (+) Opposite (-)	Explanatory remarks from interviewees	Total weight of remark
Clan	+	People feel free for chatting on work floor	2
	+	Management can be characterized as stimulators for employees to improve and develop. Employees are seen as the most important asset of the PoR Authority, in which large amounts of time and financial investments are done to have a better result.	3
	+	Pride to work for the PoR is a binding factor. Everybody has the feeling he or she is able to create added value. People are binded with the main vision and all want to develop the PoR to an excellent level.	4
	-	Mentality within the PoR Authority is sometimes strongly characterized as machoism and demarcated responsibilities. The motto to work together for the same company and goal is sometimes not well represented.	1
	-	PoR Authority has transferred in recent years from an organisation with proud people having high loyalty to the PoR, towards one with people who have shared loyalty partly to the port and partly to the PoR Authority. People are less personally committed to the port. Since the privatisation, people see the PoR Authority more as entity that has to make profit.	2
	-	No emphasis on personal development and maintenance of trust, openness and participation.	2
	-	Loyalty and mutual trust does not seem very typical for the PoR Authority. People seem to interfere with eachothers responsibilities.	2
	-	Coherent goal among different departments seems to be missing. Departments often driven by their own goals and interests. Lack of interaction among departments. This counteracts effectiveness.	3
	-	PoR Authority is a political organisation with a politic mentality, representing employees who seem to be driven by own interests and goals.	2
	-	Responsibilities are very demarcated among departments and Project Leaders. This results in lack of 'we' mentality. Project Leaders stand alone, resulting in limited mutual involvement.	2
	-	Management does not seem to be characterized as mentor, facilitator and stimulator.	1
	-	Mentality of keeping knowledge for youself instead of sharing it. Overall, sharing of knowledge is not stimulated within the PoR Authority.	2
	-	The threshold for a project team member to approach the Project Manager in case he or she struggles with an issue is quite high.	2
	-	Pride sometimes leads to miscommunication in decision-making. This counteracts power for change.	2
	-	People feel willing to give an opinion before a decision can be made. Multiple organisational layers are involved in decision-making. This counteracts innovation. Strong system counteracts new ways of working.	2
Adhocracy	+	Project Teams do not have standard access to sufficient space in time and all resources they need to let their project run smoothly and focusing for 100% on only one single project. This creates a culture in which people do not have maximum control over everything. Amount of control on the situation together with assumptions and conditions of the situation could determine culture within a project team.	2
	+	Culture that arises among people strongly depends on certain mission and mandate of the project in case. Culture is strongly determined by the priority of the organisation that influences decisions and the resources and logics that are or are not made available.	2
	+	Focus-term (long-term/short-term) determines culture. So difference in focus-term probably explains culture differences among departments.	3
	+	Slowly increasing level of innovativeness, entrepreneurship and daring to take risks	1
	-	Control sometimes becomes more important than taking risks, focus on control is becoming quite dominant.	3
	-	PoR Authority can clearly not be characterized as being dynamic and creative	1
Hierarchy	+	Before, the PoR Authority became autonomous it was quite similar to PMV2 in the sense that a lot happened on basis of trust. After 2004 the new CEO introduced a more strickt way of working, resulting in standardization of processes and formal procedures to gain control on what everybody is doing.	5
	+	People feel willing to give an opinion before a decision can be made. Multiple organisational layers are involved in decision-making.	2
	+	In general, people feel free for chatting on work floor but work clearly is the main priority.	2
	+	People are initially afraid for internal organisational changes and tend to complain and resist. This fades away as soon as they experience the benefits and logics for the organisation.	1
	+	People tend to maintain their control, which result in creation of a controlled and	1

		structured environment.		
	+	Management is intented to show coordination, organisation and smooth efficiency, however this does not seem to clearly appear yet in practice.	1
	+	Operating Core represents relatively young people (<35). Middle Management is a thick layer represented by people already working long time at the PoR Authority. Middle Managers not very triggered to change positions, so not much flow in employment. Middle Managers often not strongly characterized as being dynamic and entrepreneurial and prefer to stay within comfort zone.	1
	+	PoR Authority seems to be risk avoiding. When ambigious plans do not seem to work out, ambitions are likely adapted instead of adapting the horizon of solutions.	1
	+	PoR Authority is risk avoiding, meaning that as long as people operate as a team, responsibilities are shared over the whole group.	2
	+	Many procedures are stadardized to improve efficiency of organisation. Everybody is required to work according to these procedures. In some cases procedure is more important than content.	2
	+	No strong focus yet on obtaining new resources for creation of new challenges.	2
	+	PoR Authority can best be described as a task-organisation.	1
	-	PoR Authority is a quite unwieldy organisation with a municipal character. Small reorganisations are decreasing this character nowadays.	1
Market	+	PoR Authority has transferred in recent years from an organisation with proud people having high loyalty to the port, towards one with people who have shared loyalty partly to the port and partly to the PoR. Since the privatisation, people are less personally committed to the port and see the PoR Authority more as entity that has to make profit.	3
	+	People strive for the success of PoR and are fanatical. They do not take a loss in profit for granted. People now feel more challenged compared to the period during and before privatisation. This clearly changed the mentality and thereby the organisational culture.	1
	+	People tend to maintain their control, which result in creation of a controlled and structured environment.	4
	+	Employees are seen as the most important asset of the PoR Authority, in which large amounts of time and financial investments are done to have a better result.	3
	+	Regarding the strategic focus of people in the Port Authority, it seems that in some cases jealousy is playing a role between different departments. (Internal competitiveness)	2
	+	Working standards are high within the PoR Authority	1
	+	The people within the PoR Authority strive for the succes of the PoR. They are fanatical and do not take a loss in profit for granted.	1
		Other remarks	
		In general, people find the PoR Authority a great place to work in and for. They stay employed for relatively long time.	2
		Binding factor strongly differs per department	3
		Culture in the PoR Authority can be associated with a political game	1
		Emerging People/Planet/Profit mentality in port development projects	3

E.6 Interview results • Port of Antwerp Authority

This Section of the Appendix includes the same sequence of overviewing tables as for the Previous PoR Authority (PMV2) and the present PoR Authority that are presented in Section 'E.5 Interviewee results • Port of Rotterdam Authority'.

E.6.1 Previous PoA Authority (in times of DGD)

Organisational structure results

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**Table 33 – Overview (developed by researcher) of answers
on the organisational structure dimensions regarding the previous PoA Authority**

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Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation
1	**Strategic apex**	**Direct supervision**	**Vertical and horizontal centralisation** **Limited horizontal decentralisation**
	Ultimate decisions are being made by the Strategic Apex. The decision criteria are not always clear across the organisation.	Direct supervision because of the top-down structure. Almost no standardization of processes. Departments try to maintain their own	Mainly type Horizontal and Vertical Centralisation. Ultimate decisions are being taken by the top. However the top needs the skills and knowledge of the

	The Technostructure is very important in order to achieve the goals. However it depends strongly on the type of goal.	power. Srong delineation of responsibilities. Mutual adjustment among departments is limited by the power restrictions of higher levels.	technostructure in order to make the right decisions. So formal decisions are being taken by the Management Team. Informally, the Technostructure is also very important. There is a political influence on decision making. The Management Team is a collection of multiple disciplines.
2	**Technostructure**	**Mutual Adjustment**	**Vertical and horizontal centralisation**
	In times of the Deurganckdok, the execution of such construction projects came mainly down to the actual construction activities without focus for environmental aspects. The emphasis during the Deurganckdok project therefore was on the Technostructure (engineers). In a later stage, experts were involved in order to get the project back on track again.	During the Deurganckdok project, the Port Authority did not follow the royal guidelines for means of communication. Hardly any Standardization of Outputs or individual and output focused job appointments.	The Port Authority is a very hierarchical organisation, which is organized quite strickly. The decision power is dominantly organised at the top. Final decisions will always be made by the Strategic Apex.
3	**Operating core**	**Direct supervision** **Standardization of skills** **Mutual adjustment**	**Vertical and horizontal centralisation** **Limited vertical decentralisation**
	In times of the Deurganckdok project, the operational tasks of the Port Authority were most important (Tugging, dredging and operation of the locks for example)	In times of Deurganckdok maybe more focus on Standardization of Skills. Mutual Adjustment happends between the different departments involved in large-scale port development projects. It happens in a formal as well as an informal way. Projectteams are composed in which different departments are involved.	Hardly any delegation of powers to lower levels within the organisation. Decisions within a wide range of importance are taken by the top of the organisation. The Strategic Apex is clearly the organisational element that takes the decisions.
4	**Technostructure** **Support staff**	**Standardization of work processes** **Mutual adjustment**	**Selective vertical and horizontal decentralisation**
	The Technostructure and the Support Staff both had a key role in determining the development direction of the Deurganckdok project. Also the Flamish Region were of great influence, since they made final decisions in regional implementation plans and granting of licences. Final decisions were not taken by the top of the Port Authority. The Port Authority had to collaborate with external parties (the Government, the Province, local natural movements, NGOs) in order to make decisions. Only a selection of people from these organisational elements were closely involved in the Deurganckdok project. External stakeholders were also very important keyrol players during the Deurganckdok project.	During the Deurganckdok project, the strongest coordination mechanism was Mutual Adjustment. This happened internally among departments and externally among the Port Authority and other parties who were involved in the Deurganckdok project. First, collaboration between different external parties or departments went in a very organic way. This was very flexible but also very uncontrollable. The top of the Port Authity often wanted updates from the people who were working on the Deurganckdok project. The way of Mutual Adjustment changed after the setbacks during the development of the project. Ad-hoc teams were composed in order to make mutual adjustment more effective. Due to the high timepressures, there was no time for development of	A sense of trust was needed between the top of the Port Authority and the people who were engaged in the strategy development around the Deurganckdok project. These top had confidence in these people that they would properly defend the interests of the Port Authority in all negotiations with external parties and in making certain decisions. Trust was very important. These people achieved the needed mandate from the top to negotiate about solutions. Decisions that were made on lower levels were selectively decentraliced due to the urge of the project. So certain decision-making powers were exeptionally decentralized for the Deurganckdok project.

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation		Structural configuration
			standardization processes in order to increase effectiveness.		
	The operating core started become important in the phase of construction of the dok.				

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation		Structural configuration
1	Strategic apex	Direct supervision	Vertical and horizontal centralisation Limited horizontal decentralisation	→	A **clear Simple Structure in combination with Limited Horizontal Decentralisation** as type of decentralisation.
2	Technostructure	Mutual Adjustment	Vertical and horizontal centralisation	→	An **exeptional combination** of the **Technostructure as strong keyrole, Mutual Adjustment as coordination mechanism since hardly anything was standardized** and a **strong Vertical and Horizontal Centralisation** as type of decentralisation. This combination does not clearly result in one structural configuration.
3	Operating core	Direct supervision Standardization of skills Mutual adjustment	Vertical and horizontal centralisation Limited vertical decentralisation	→	A combination of a **Professional Bureaucracy with very limited Vertical and Horizontal Decentralisation**, a **Simple Structure with a relatively loose role of the Strategic Apex** and a high level of **Mutual Adjustment** as Coordination Mechanism.
4	Technostructure Support staff	Standardization of work processes Mutual adjustment	Selective vertical and horizontal decentralisation	→	A **clear Adhocracy in combination with a relatively important Technostructure.**

Organisational culture results

Dimension #	Dimension	Interviewee	% Clan (A)	% Adhocracy (B)	% Hierarchy (C)	% Market (D)
1	Dominant characteristics	1	10	10	10	70
		2	15	25	30	30
		3	30	10	40	20
		4	33	33	33	0
		Average:	**22**	**20**	**28**	**30**
2	Organisational leadership	1	25	25	25	25
		2	20	10	35	35
		3	40	10	10	40
		4	33	33	33	0
		Average:	**30**	**20**	**26**	**25**
3	Management of employees	1	20	20	20	40
		2	20	20	30	30
		3	60	10	20	10
		4	40	40	20	0
		Average:	**35**	**23**	**23**	**20**
4	Binding mean within organisation	1	10	10	10	70
		2	20	10	35	35
		3	40	10	30	20

		4	40	20	30	10
		Average:	**28**	**13**	**26**	**34**
5	Strategic focus	1	25	25	25	25
		2	10	20	35	35
		3	40	10	20	30
		4	20	30	30	20
		Average:	**24**	**21**	**28**	**28**
6	Criteria for success	1	5	5	5	85
		2	15	15	40	30
		3	40	10	20	30
		4	20	20	20	40
		Average:	**20**	**13**	**21**	**46**
		Sum (total of responses)	158	108	152	183
		Average (sum devided by 6)	**26**	**18**	**25**	**30**

Table 36 – Overview (developed by researcher) of interviewee remarks about organisational culture of the previous PoA Authority

Interviewee	Remark	Fits with culture type	Other remarks
1	Regarding the dominant characteristics of organisational culture, there is a significant difference between operational departments and the other departments of the Port Authority. The operational departments could for example be described by a dynamic, entrepreneurial kind of people that are willing to stick out their necks and take risks. This is contradictive regarding the rest of the Port Authority.	Adhocracy (only Operating Core) Hierarchy (rest of Port Authority)	
	The culture of the Port Authority in times of DGD is very similar to the current situation. The organisational culture dimensions are scored quite similar. There is a light shift, however not much. Probably, plotting the current and previous organisational culture will result in a quite similar shape, only with the plot for the current situation being less extreme. The average culture within the Port Authority is still quite the same as how it was in times of realisation of the DGD project.	/	Previous and current situation are quite similar, previous bit more extreme
	Probably, the organisational culture mainly differs per project and per department, and not in different moments in time.	Opposite of Clan	
	The Board of Directors of the Port Authority is really politicized. This strongly determines decision-making processes and port development.	/	Board of Directors politicized
2	The Port Authority is a relatively large organisation which is dominantly inspired by public law.	/	Inspired by public law
	The Port Authority can be described as a real bureaucracy.	Hierarchy	
	The Port Authority is a very controlled organisation with clear hierarchical lines.	Hierarchy	
	The Management of the Port Authority does not seem to be described as being entrepreneurial, innovative and taking risks. Within the Port Authority, actually no decisions are taken when not first being fully discussed.	Hierarchy	
	The top of the Port Authority still maintaining a strong and results-oriented top-down direction. However this direction is not performed in an aggressive way.	Market	however not aggressive
	The binding factor within the Port Authority can best be described as achieving results and formal rules. The Port Authority is clearly a results-oriented organisation.	Market Hierarchy	
	The strategic focus hardly included looking for new challenges. Development of the port in a sustainable way was not specifically promoted by the Policy Development department.	Opposite of Adhocracy	
	The Port Authority can be described as a passive landlord port since they take a more biding role in situations of potential development in the port. The Port Authority does not actively seek for and trigger potential synergies.	Hierarchy	
	The performance of the Port Authority is always internally communicated in a quantitative way with for example monthly updates formulated in tonnes. Also a strong driver was to win a	Market	

		part of mandate.		
3		The people responsible for the development of the DGD project did not work together in a very structured way.	Adhocracy Opposite of hierarchy	
		The culture of the Port Authority is a combination of different extremes. Characteristics seem to be contrasting. For example management is on the one side as a mentor, facilitator and stimulator, but on the other side it shows coordination, organisation and smooth efficiency.	Hierarchy Clan	
4		Parts of the Port Authority work in a very organic way.	/	Organic working approach
		People work in islands in their own departments. This shows from a not always high level of mutual commitment, internal flow and communication.	Opposite of Clan	
		The Port Authority is a very personal place. However it could not really be described as a large family. There is no family bond, because people work on their island and feel only responsible for their own tasks. People were also not typically results-oriented.	Opposite of Clan Opposite of Market	
		The Port Authority is strongly characterized with an island culture with different kingdoms, especially on level of the Operating Core. The Port Authority does not work as a complete organisation, because of all the different departments that only focus on their own work. The responsibilities of different departments are very delimited. Within these departments there is now through flow in employees.	Opposite of Clan	
		The different departments of the Operating Core of the Port Authority do not feel connected. They have separate goals and drivers. They have separate goals and drivers. They do not share a total ambition.	Opposite of Clan	
		Formally seen, the Port Authority is a structured organisation. However everybody knows that this works because there is still quite some freedom. As long as no questions were asked, everybody could keep doing their work as they were doing it. So on the one side, the Port Authority is very structured, but on the other side it can be said that it is a quite messy organisation.	Hierarchy Adhocracy	
		Because the Port Authority is a hybrid organisation (management task, public task, comercial task) there is a large difference in how different departments interpret and practicize the corporate strategy.	Opposite of Clan	
		One organisation wide culture is hard to identify regarding the strong internal dynamics present in the Port Authority. In times of DGD the Port Authority could not be described as an organisation with an organisation wide culture.	Opposite of Clan	
		The team of people who worked on the DGD project took risks in the sense that nobody knew where the DGD project story would end.	Adhocracy	
		The team of people who worked on the DGD project are very competitive and results-oriented. They were driven by a clear goal, namely the construction of the dock and making sure that no conflicts would emerge.	Market	
		The team of people who worked on the DGD project did not work together in a structured way.	Adhocracy Opposite of hierarchy	
		The Port Authority is an unstructured totality including emergency elements that had to be pro-active and had to work out-of-the-box and from scratch. Therefore, the organisation management is hardly one that shows coordination, organisation and smooth efficiency. The people working on the DGD project had the feeling that they were provided freedom from their management to perform their jobs. The management was more a facilitator along the process.	Opposite of Hierarchy Clan	
		The Port Authority is an organisation that mainly has the role of generating employment. This maybe was even a more dominant role than the management of the port area.	Clan	

The remarks presented in previous table are clustered and categorized per organisational culture type. For each remark is determined whether it adds up or is opposite to the type. Also the total weight is calculated with respect to the interviewee weightings. The final overview is presented in upfollowing table.

Table 37 - Overview (developed by researcher) of categorized remarks from PoA Authority interviewees that are explanatory for the organisational culture plot shape of the previous PoR Authority

Culture Type	Adds up (+) Opposite (-)	Explanatory remarks from interviewees	Total weight of remark
Clan	+	Management shows partly the role of mentor, facilitator and stimulator	3
	+	People responsible for the DGD project were provided exceptional freedom from their managers to perform their jobs. Management was like a facilitator along the process.	2
	+	PoA Authority mainly focused on the role to generate employment. This was a more dominant role than management and development of the port area.	2
	-	Organisation wide culture is hard to identify regarding the strong internal dynamics	2
	-	People work in islands in their departments, island culture, showing a low level of mutual commitment, internal flow and communication. Responsibilities of different departments are very delimited.	4
	-	PoA Authority is not like a large family; there is no family bond.	2
	-	Different departments of Operating Core do not feel connected. They have separate goals and drivers and do not share total ambition.	2
	-	Large difference in how different departments interpret and practicize corporate stratety, because PoA Authority is hybrid organisation (Management, public and commercial task)	2
	-	Organisational culture mainly differs per project and per department, and not over time	1
Adhocracy	+	Operating Core exists of dynamic, entrepreneurial people who are willing to stick out their necks and take risks	1
	+	People responsible for DGD project did not work together in a structured way	5
	+	Team of people working on the DGD project took risks in the sence that nobody knew where the project story would end	2
	-	Strategic focus hardly includes looking for new challenges. Development of the port in a sustainable way was not specifically promoted by the Policy Development department	2
Hierarchy	+	Except for the Operating Core, people are not characterized as dynamic, entrepreneurial people who are willing to stick out their necks and take risks	1
	+	PoA Authority is a real bureaucracy	2
	+	PoA Authority is a controlled organisation with clear hierarchical lines	2
	+	Management is not characterized as entrepreneurial, innovative and taking risks. Dicisions are not taken when not fully discussed.	2
	+	PoA Authority can be described as passive landlord. They take a more biding role in situations of potential development in the port and do not actively seek or trigger potential synergies.	2
	+	Management shows partly coordination, organisation and smooth efficiency	3
	+/-	Formally seen, the PoA Authority is a structured organisation. However everybody knows there is still quite some freedom and makes use of this, resulting in a quite messy organisation.	2
	-	Management does not show coordination, organisation and smooth efficiency	2
	-	Team of people did not work together in a structured way	5
	-	Group of people responsible for the DGD project were an unstructured totality including emergency elements that had to be pro-active and had to work out-of-the-box and from scratch.	2
Market	+	Top of Port Authority maintains a strong results-oriented top-down direction, however not aggressive	2
	+	Performance always internally communicated in a quantitative way (monthly updates formulated in tonnes). Also a strong driver was to win a part of mandate.	2
	+	Team of people working on the DGD project were very competitive and results-oriented. They were driven by a clear goal, namely the construction of the dock and making sure that no conflicts would emerge.	2
	+	PoA Authority is a clear results-oriented organisation. Binding factor is achieving results and formal rules.	2
	-	Different departments of the PoA Authority collaborated on the project, but not in a pro-active way.	2
	-	People within the PoA Authority were not very results-oriented	2
		Other remarks	
		Previous and current situation are quite similar, previous bit more extreme	1
		Board of Directors is politicized. This strongly determines decision-making processes	1
		Parts of the Port Authority work in a very organic way	2

PoA Authority is a relatively large organisation which is dominantly inspired by Public Law		2
Organisational culture is a combination of different extremes		3

E.6.2 Current PoA Authority

Organisational structure results

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**Table 38 – Overview (developed by researcher) of interviewee
answers regarding the organisational structure of the current PoA Authority**

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Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation
1	**Strategic apex (formal)** **Technostructure (informal)**	**Direct supervision** **Standardization of work processes**	**Vertical and horizontal centralisation** **Limited horizontal decentralisation**
	Ultimate decisions are being made by the Strategic Apex. The decision criteria are not always clear across the organisation. The Technostructure is very important in order to achieve the goals. However it depends strongly on the type of goal. Throughput of input from Technostructure and Operational Core to the Strategic Apex is increasing.	Direct supervision because of the top-down structure. Standardization of work processes is growing. Such changes are initiated and directed by the Management Team. Departments try to maintain their own power. Strong delineation of responsibilities. Increasing Mutual Adjustment among departments, but limited because of the power restrictions of higher levels.	Mainly type A. Ultimate decisions are being taken by the top, which is nowadays smaller than in times of the Deurganckdok project. However the top needs the skills and knowledge of the technostructure in order to make the right decisions. So formal decisions are being taken by the Management Team. Informally, the technostructure is also very important. There is a political influence on decision making. The Management Team is a collection of multiple disciplines.
2	**Middle management** **Operating core**	**Standardization of work processes**	**Vertical and horizontal centralisation**
	The Strategic Apex drives the organisation and defines the policies and goals, which are being translated to the department managers. However the Middle Management and Operating Core are closest involved with the execution of port development projects. Within the Port Authority it is clear that control is determined by formulated strategic plans or multiannual plans, both quantitative and qualitative.	Coordination mechanism strongly differs per department; some are more hierarchical than others. (Departments of the Operating Core have Standardisation of Work Processes and e.g. the Financial Service department has Mutual Adjustment.) Mutual Adjustment seems to be not representative for the Port Authority since it is too informal regarding the standardized way things in general go.	Decisions are being made high up in the organisation. There is the ability for department managers to bring up discussionpoints for the Management Team. Such discussionpoints can be submitted with a support of detailed argumentation, motivation and elaboration. Notwithstanding the fact that the Port Authority is a authonomous organisation, they have to follow strict procedures. Final decisions are always made by the Stategic Apex.
3	**Operating core** **Technostructure** **Support staff**	**Standardization of work processes** **Mutual adjustment**	**Vertical and horizontal centralisation**
	Large port development projects are nowadays approached in a broader way. The approach is multidisciplinary by a steering committee composed from a large variety of disciplines (From engineers to people from departments such as communication and financial and juridical affairs).	Since times of the DGD project Standardization of Work Processes is increasing. More and more individually and output focused job appointments are being made. Nowadays a more structured approach is taken for large-scale port development projects. Due to lessons learned from the DGD project, awareness increased about the benefits of more systematic collaboration.	The Port Authority is a very hierarchical organisation, which is organized quite stricktly. The decision power is dominantly organised at the top. There is however a shift in mentality of the Strategic Apex. They have an advisory body, from which they receive advice on structual basis every other week. This body consists of functional people who are closely involved with large dossiers. However, the final decision will always be made by the Strategic Apex.
4	**Operating core**	**Direct supervision**	**Vertical and horizontal centralisation**

	Technostructure Support staff	Standardization of work processes Mutual adjustment	Limited vertical decentralisation
	These three organisational elements are togther the most dominant since the Port Authority operates in a technocratic environment. The Port Authority is a technocratic organisation. The Technostructure is very important regarding all the engineers who are able to do construction works of large scale port development projects. The Support Staff is important during the preparation phase of a large scale port development project. They give support on juridical aspects, do certain investigations and provide other services. Nowadays Operational Core services become more important since the organisations role shifts towards being a facilitator or the port community.	Direct Supervision only in certain functions. Nowadays maybe more focus on Standardization of Work Processes. Mutual Adjustment happends between the different departments involved in large-scale port development projects. It happens in a formal as well as an informal way. Project teams are composed in which different departments are involved.	A shift is currently taking place. Amount of delegation of powers is increasing towards lower levels within the organisation. However, decisions that concern a certain high level of importance will be taken by the top of the organisation. Departments are free to prepare and submit decision proposals to the Management Team, after which the Management Team takes the final decision. The decision making procedures within the Port Authority are quite formal. However the direction and content of the decision proposals are not always determined by the Strategic Apex. They have a certain extent of trust in the analists and specialists. In some cases the analists and specialists can make decisions, depending on the level and content.
5	Strategic apex Technostructure Support staff	Standardization of work processes Mutual adjustment	Selective vertical and horizontal decentralisation
	The Technostructure and Support Staff play a key role in the development of new strategies that are to be rolled out within the Port Authority. The top of the organisation does not seem to be the main strategy developer. In large-scale port development projects in which not only the Port Authority has decision-making power, external parties can also have a key role.	Standardization is increasing within the Port Authority (for example negotiation procedures, project team structures and time-management) in order to increase control. Due to lessons learned from the Deurganckdok Project, Standardization of Work Processes is increasing. The organisational structure developed during the Deurganckdok project is still being used today. Mutual Adjustment is an important coordination mechanism during large-scale portdevelopment projects. Ad-hoc teams are composed in order to organise Mutual Adjustment in an effective way.	Certain important decisions that need to be made in large portdevelopment projects are prepared in detail by lower layers within the Port Authority before the top makes a decision about it. This way, a certain extent of selective horizontal and vertical decentralization takes place. Also within departments, decision-making power in some cases is devided horizontally. Another example of the selective vertical and horizontal decentralization is that for some dicisions, concessions or issues special teams of for example just five employees are responsible, sometimes not even on top level of the organisation.
6	Strategic apex Technostructure Support staff	Standardization of outputs Mutual adjustment	Vertical and horizontal centralisation
	Port development is determined by the department of Patrimonium Management (They know how international and european policies are evaluating and can determine how the port can best develop, which markets are interesting to	Within the Port Authority the procedures for the progress of projects is not standardized. Therefore, standardization is not a well represented coordination mechanism. For every project, a separate organisational structure is composed with a Steering	On Technostructure level limited decision-making power is decentralized. People from the Technostructure have their independence, but when something asks for financial investments approval needs to be given along the vertical line of the organisation. The size of financial investment determines on

attrackt, maintain and facilitate etc.) and the department of Marketing, Promotion and Commerce (They know what is needed in the market and how the market evaluates). Decisions about whether a new dock should or should not be build is made by the Strategic Apex, the Technostructure and the Support Staff. The Technostructure is for example consulted to make cost/benefit analysis and feasibility studies. When all decisions are taken, the keyrole of the execution phase of port development projects is mainly at the Operational Core and Middle Management (at the department Area Management and Projects).	Committee and work groups. These Steering Committees give direction to the project and make decisions on the input from the work groups. Among the project groups, a lot of mutual adjustment and collaboration takes place. Every project has one head responsible person, the coordinator/project manager. He/she is not responsible for everybodies work but manages that the project proceeds well and within planning. Standardization of outputs and of skills happens in form of job appointments for every employee which have to be succeeded by the end of the year. Standardization of Outputs and Mutual Adjustment are the most representative coordination mechanisms regarding project teams that work on port development projects.	which level in the vertical line the decision will be taken. Decision-making power with regard to port development projects and the realisation of these projects is completely at the Strategic Top of the Port Authority. Therefore, Vertival and Horizontal Centralisation is the most representative type of decentralisation within the Port Authority. Also the Middle Management has to get approval on Board of Director level.
7 **Strategic apex** **Technostructure**	**Standardization of work processes** **Mutual adjustment**	**Vertical and horizontal centralisation** **Limited vertical decentralisation**
Crucial strategic decisions for portdevelopment are being made by the Strategic Apex. Examples are decisions about the construction of the Deurganckdok and the Saeftinghezone. Initiatives mainly come from the top of the organisation, but they ask lower level services for their input. External stakeholders are very important key players for port development. In first place politics. Also the 100% shareholder of the Port Authority, the Antwerp Municipality. Because of this, the Port Authority is politically driven to a certain extent. Important stakeholders for regarding port development are politics on the one hand and clients on the other hand, which concern storage facilities, carriers and the industry. These stakeholders incluence to a certain extent the direction of port development.	The coordination mechanism probably differs much among the departments of the Port Authority. For example the engineering departments are probably very output focused and work with strickt plannings and deadlines, whereas the department of Intermodality and Hinterlan works mainly with Mutual Adjustment. In previous large port development projects the coordination mechanism was probably mainly direct supervision, because the Port Authority is originally a governmental organisation with government mentality and strong hierarchy. Nowadays Standardization of Work Processes is probably more representative.	Decisions with high level of importance are being made by the top of the organisation. Embryonal novelties are coming from lower levels of the organisation. It strongly depends on the case whether the type of decentralisation is more the Vertical and Horizontal Centralisation or the Selective vertical decentralisation.

Table 39 – Overview (developed by researcher) of the dimension results per interviewee and the resulting structural configurations for the current PoA Authority

Interv. #	Keyrole	Coordination Mechanism	Type of Decentralisation		Structural configuration
1	Strategic apex (formal)	Direct supervision Standardization of	Vertical and horizontal centralisation	→	Combination of a **clear Simple Structure (formal organisational structure)** and a **clear Machine Bureaucracy.** Informally,

#	Key part	Coordination mechanism	Type of decentralisation		Description
	Technostructure (informal)	work processes	Limited horizontal decentralisation		the **Technostructure is very important.**
2	Middle management Operating core	Standardization of work processes	Vertical and horizontal centralisation	→	Strong contradiction; a mix of characteristics. It comes down to a combination of **Professional Bureaucracy** and **Divisionalized Form** with **an extremely horizontally and vertically centralized decision making system.**
3	Operating core Technostructure Support staff	Standardization of work processes Mutual adjustment	Vertical and horizontal centralisation	→	A combination between a **Machine Bureaucracy and an Adhocracy, however with a relatively high level of Vertical and Horizontal Centralization** as type of decentralisation and a **relatively important Operating Core.**
4	Operating core Technostructure Support staff	Direct supervision Standardization of work processes Mutual adjustment	Vertical and horizontal centralisation Limited vertical decentralisation	→	A combination of a **clear Machine Bureaucracy with in some cases decentralisation towards Middle Management** and a **Simple Structure with the Operating Core, Support Staff and Technostructure as being the keyroles instead of the Strategic Apex** and an **Adhocracy with a relatively high Vertical and Horizontal Centralization** as type of decentralisation.
5	Strategic apex Technostructure Support staff	Standardization of work processes Mutual adjustment	Selective vertical and horizontal decentralisation	→	A combination between a **Machine Bureaucracy** and an **Adhocracy** in which the **Strategic Apex also has a key role.**
6	Strategic apex Technostructure Support staff	Standardization of outputs Mutual adjustment	Vertical and horizontal centralisation	→	A combination between a **Simple Structure with Standardization of Outputs instead of Direct Supervision** as coordination mechanism, an **Adhocracy with a low level of Selective Decentralisation** as type of decentralization and a relatively **important Technostructure.**
7	Strategic apex Technostructure	Standardization of work processes Mutual adjustment	Vertical and horizontal centralisation Limited vertical decentralisation	→	A combination of a **Simple Structure with a relatively low amount of Direct Supervision**, a **clear Machine Bureaucracy with relatively much decentralisation towards the Middle Management** as type of decentralisation and **Mutual Adjustment** as important coordination mechanism.

Organisational culture results

Table 40 – Overview (developed by researcher) of organisational culture dimension scores of the current PoA Authority interviewees

Dimension #	Dimension	Interviewee	% Clan (A)	% Adhocracy (B)	% Hierarchy (C)	% Market (D)
1	Dominant characteristics	1	10	10	10	70
		2	25	5	20	50
		3	15	15	40	30
		4	20	10	40	30
		5	20	20	25	35
		6	10	40	10	40
		7	10	10	10	70
		Average:	**16**	**16**	**22**	**46**
2	Organisational leadership	1	25	25	25	25
		2	30	15	40	15
		3	20	10	35	35
		4	40	10	10	40

		5	20	15	30	35
		6	10	20	40	30
		7	40	40	10	10
		Average:	**26**	**19**	**27**	**27**
3	Management of employees	1	20	20	20	40
		2	30	10	10	50
		3	20	25	30	25
		4	50	10	30	10
		5	40	20	20	20
		6	30	40	20	10
		7	10	30	10	50
		Average:	**29**	**22**	**20**	**29**
4	Binding mean within organisation	1	10	10	10	70
		2	40	0	20	40
		3	20	10	35	35
		4	30	10	30	30
		5	40	10	30	20
		6	10	20	40	30
		7	40	10	20	30
		Average:	**27**	**10**	**26**	**36**
5	Strategic focus	1	25	25	25	25
		2	20	10	20	50
		3	10	25	30	35
		4	40	20	20	20
		5	10	20	40	30
		6	10	20	40	30
		7	20	40	20	20
		Average:	**19**	**23**	**28**	**30**
6	Criteria for success	1	5	5	5	85
		2	40	10	25	25
		3	15	25	30	30
		4	40	10	20	30
		5	10	20	40	30
		6	10	10	40	40
		7	10	30	60	0
		Average:	**19**	**16**	**31**	**34**
		Sum (total of responses)	136	106	155	204
		Average (sum devided by 6)	**23**	**18**	**26**	**34**

Table 41 – Overview (developed by researcher) of
interviewee remarks about organisational culture of the current PoA Authority

Interviewee	Remark	Fits with culture type	Other remarks
1	Regarding dominant characteristics of organisational culture, there is a significant difference between operational departments and the other departments of the Port Authority. The operational departments could for example be described by a dynamic, entrepreneurial kind of people that are willing to stick out their necks and take risks. This is contradictive regarding the rest of the Port Authority.	Adhocracy (only Operating Core) Hierarchy (rest of Port Authority)	
	The culture of the Port Authority in times of DGD is very similar to the current situation. The organisational culture dimensions are scored quite similar. There is a light shift, however not much. Probably, plotting the current and previous organisational culture will result in a quite similar shape, only with the plot for the current situation being less extreme. The average culture within the Port Authority is still quite the same as how it was in times of realisation of the DGD project.	/	culture of the Port Authority in times of DGD is very similar to the current situation
	Probably, the organisational culture mainly differs per project and per department, and not in different moments in time.	Adhocracy	culture differs per project and per department

		The Board of Directors of the Port Authority is really politicized. This strongly determines decision-making processes and port development.	Hierarchy	
	2	The PoA Authority is a structured environment with procedures and formal decision-making power distributions	Hierarchy	
		Based on experiences in the financial department, the PoA Authority seems to be a personal place	Clan	
		The PoA Authority does not seem to be typically dynamic and entrepreneurial, since making profit is not the main goal. This is not completely absent, however creating added value in a sustainable way is found more important.	Hierarchy Opposite of Market Opposite of Adhocracy	
		Overall, the PoA Authority does not seem to be very competitive and results-oriented. However project teams can be competitive and results-oriented. Such teams also do lobby work to external parties for example.	Market (in project teams)	
		Employees of the PoA Authority are not mutually competitive, but try to achieve the same goal together.	Clan	
		Five behaviour appointments nowadays are distributed and promoted in the PoA Authority. These are collaboration, trust, innovation (internal), respect and customer focused. Those appointments are spreaded and wellknown within the organisation and apply to everyone. Employees are also evaluated on these core values.	Clan Adhocracy Market	
		Higher focus on external communication for the creation of external support for the port and the development of it. This is on behalf of the total port community.	Clan	
		The PoA Authority has a staff association, contributing to sustainable focus on personnel. Activities or rewards from the association are mostly port-related, which creates mutual pride to the port. Via the staff association the employees are triggered to interest and get involved in the port.	Clan	
		Employees are proud and impressed about the port and the port activities.	Clan	
		The more external and open focus of the PoA Authority that has emerged in the recent years influences the organisational culture. People become more internally and externally oriented.	Clan Market	
	3	The Port Authority is a relatively large organisation which is dominantly inspired by public law.	/	dominated by public law
		The Port Authority can be described as a real bureaucracy. Clear hierarchical lines exist to realise something.	Hierarchy	
		The extent of hierarchy along a project realisation strongly depends on the set of responsible people. Within projects, always a number of people actually really make the difference by having very short communication lines and by not always working according exactly the hierarchical lines.	Hierarchy Adhocracy	
		The Port Authority is a very controlled organisation with clear hierarchical lines.	Hierarchy	
		Nowadays, people of the Port Authority are maybe more results-oriented, as shown by the results-oriented job appointments that are applied on department-level and on employee-level. Therefore, it seems that the Port Authority now employs more and more people with a higher level of result-based orientation.	Market	
		The Management of the Port Authority does not seem to be described as being entrepreneurial, innovative and taking risks. Within the Port Authority, actually no decisions are taken when not first being fully discussed.	Hierarchy	
		The top of the Port Authority still maintaining a strong and results-oriented top-down direction. However this direction is not performed in an aggressive way.	Market Hierarchy	
		The management style within the Port Authority can be described as a strong bureaucracy in which high demands are set.	Hierarchy	
		In some departments, typically the smaller ones, people get a certain amount of freedom in performing their work. Therefore, freedom is to a certain extent a characteristic of management style. The management style has certainly	Market	

	developed within the limiting borders of freedom.		
	The binding factor within the Port Authority can best be described as achieving results and formal rules. The Port Authority is clearly a results-oriented organisation.	Market	
	The strategic focus is more and more including looking for new challenges. Within the department Policy Development more innovative policies are trying to be developed which before were not on the agenda. This is done to promote development of the port in a sustainable way. The level of support in case of innovative ideas seems to increase nowadays.	Adhocracy	
	People are willing to be the front-runner with the image as main driver and want to be quicker than their competitors. This represents an increasing pro-active attitude.	Market	
	The Port Authority is now taking a more active role than before. They can now better be described as an active landlord in stead of a passive landlord which was representative for the Port Authority in the past. Now, the Port Authority is seeking for and triggers potential synergies that they find important, with the overal goal to increase transport over waterways in stead of over road. In this kind of situations, the Port Authority claims a more active role nowadays.	Market Adhocracy	
	Nowadays, the way in which performance of the Port Authority is internally communicated is not only quantitative, but also the added value is seen as very important. This is one of the biggest internal changes within the Port Authority since the DGD project. So a clear shift has taken place from a strong quantitative mindset, toways a more qualitative point of view regarding the performance of the organisation. Nowadays aspects such as added value, employment, sustainability and healthy development in line with environment are used to communicate the organisations performance. A People Planet Profit mentality is growing within the Port Authority.	Adhocracy Clan	
	People within the Port Authority more and more stimulate new initiatives for sustainable port development.	Adhocracy	
	The power is quite centralized within the Port Authority. That is maybe one of the reasons why probably not much sub-cultures exist within the Port Authority. It is definitely not likely that certain departments are able to develop very reverse or autonomous policy. This would not be accepted.	Hierarchy	
	Collaboration is being stimulated nowadays within the Port Authority via ad-hoc multidisciplinary project teams. This however only is done in case of a large-scale project.	Adhocracy	
4	People that work together on projects do this in a way more structured way than in times of the DGD project.	Adhocracy Hierarchy	
	The culture of the Port Authority is a combination of different extremes. Characteristics seem to be contrasting. For example management is on the one side as a mentor, facilitator and stimulator, but on the other side it shows coordination, organisation and smooth efficiency.	Hierarchy Clan	
	Formalities and focus on policy are increasing within the Port Authority.	Hierarchy	
5	The Port Authority is not characterized as a very structured organisation. A lot of things happen in an organic way.	Opposit of Hierarchy	organic working approach
	The Port Authority can be descibed as a bureaucratic organisation.	Hierarchy	
	The Port Authority is strongly characterized with an island culture with different kingdoms, especially on level of the Operating Core. The Port Authority does not work as a complete organisation, because of all the different departments that only focus on their own work. The responsibilities of different departments are very delimited. Within these departments there is now through flow in employees.	Opposite of Clan	island culture delineated responsibilities no we-feeling
	The different departments of the Operating Core of the Port Authority do not feel connected. They have separate goals and drivers. They do not share a total ambition. It is a bit less extreme than it was in times of DGD project.	Opposite of Clan	separate goals not connected no 'we'-feeling
	Nowadays, there is more structure and control from the top.	Hierarchy	
	There is an increase in change to professionalize. However, the mentality of the people within the Port Authority does not fully	Hierarchy	

	match yet. Not everybody understands yet that things need to change in order to professionalize.		
	People within the Port Authority are not willing to stick their necks out.	Hierarchy	
	Only some departments are competitive and performance oriented.	Market (only some departments)	
	Because the Port Authority is a hybrid organisation (management task, public task, commercial task) there is a large difference in how different departments interpret and practicize the corporate strategy.	Opposite of Clan	
	One organisation wide culture is hard to identify regarding the strong internal dynamics present in the Port Authority.	Opposite of Clan	
	Nowadays, project teams work together in a more stuctured way compared to the team that worked together on the DGD project.	Hierarchy Adhocracy	
	The scores that are given describe the project team who is currently appointed to the Ontwikkelings Zone Saeftinghe (OZS).	/	
	The Port Authority is nowadays a less personal place than it was in times of DGD project, because the organisation is becoming more and more structured. Thereby also the taking of risks has reduced. Because of the stardardization people are more committed to the achievement of goals. An example is that nowadays timetables are made to keep detailed track on the progresses.	Opposite of Clan Hierarchy Market	
	Nowadays, the management of the port development teams is more and more characterized by one that shows coordination, organisation and smooth efficiency. The management is nowadays more than only a facilitator and shifts towards also being a mentor and stimulator. They are also more involved on content level. It seems to be because of the increased pressure from external economic dynamics.	Hierarchy Clan	
	The Port Authority now focuses on having the role that covers the management of the whole port in combination with providing employment. The unity and control of the total port are now of high priority. However this focus still has to be enforced internally and externally. There is no strong feeling among the employers of the Port Authority of together working for a certain corporate mission and of being a port community.	Opposite of Clan Hierarchy	
	Because nowadays more organisational elements (the Technostructure and the Middle Management) instead of only the Board of Directors are involved in development of the business plan, the organisational identity is more and more seeping through the Port Authority.	Market Some bits of Clan	
6	The Port Authority can be described as a very dynamic organisation.	Adhocracy	
	The Port Authority can be described as a very controlled and structured organisation.	Hierarchy	
	In the recent years, the mentality within the Port Authority is shifting from a governmental organisation mentality to a more competitive mentality towards the external world.	Market	
	The governmental mentality is still typical for the people of the Port Authority that have experienced the transition towards privatisation. The new generation seems to be more striving.	Market	
	Within the Port Authority it does not seem that loyalty, mutual trust and openess is a strong characteristic, while this is contrasting with what the Port Authority is now aiming for.	Opposite of Clan	
	The management style within the Port Authority during port development projects does not seem to be a typical mentor and facilitator.	Opposite of Clan	
	In general, employees are very loyal to the Port Authority, however trust from the management towards the team members is not very strong.	Opposite of Clan	
	The Port Authority is nowadays more pro-active than it was before when it comes to strategy development. The Port Authority is now more actively anticipating on competition within the market, by for example adapting the channels for the access of deeper and bigger ships. The Port Authority is	Market	

		adapting towards an organisation with a competitive character.		
		The management level does not seem to delegate responsibilities easily to lower levels in the organisation.	Hierarchy	
	7	The Port Authority can be described as a hierarchical organisation.	Hierarchy	
		More and more young people are starting to work for the Port Authority. They are employed on contractual basis.	/	More youngh people Contraxtual basis in stead of statutory
		Mutual trust and loyalty are important binding factors in the Port Authority, shown by the pride towards the port. However it depends on the department to what extent somebody is committed to the Port Authority. There is a large difference also between the permanent statutory employees and the employees who are binded to the Port Authority on contract-basis. In some cases a difference can be seen in their work drivers.	Opposite of Clan	
		The organisational culture of the Port Authority seems to be quite stable. However, the organisational culture is strongly determined by the CEO. A certain type of CEO has a certain type of managers profile, which can influence the way of working within the Port Authority.	Hierarchy	organic working approach strongly depends on CEO
		The organisational culture probably significantly differs per department.	Opposite of Clan	
		The organisational culture within the Port Authority seems to strongly depend on the type of people within a team or department. The culture within a project team also strongly depends on the type of team manager. The type of manager probably strongly determines also how the team is structured and whether the mentality is very competitive or more collaborative.	Adhocracy	

The remarks presented in previous table are clustered and categorized per organisational culture type. For each remark is determined whether it adds up or is opposite to the type. Also the total weight is calculated with respect to the interviewee weightings. The final overview is presented in upfollowing table.

Table 42 - Overview (developed by researcher) of categorized remarks from PoA Authority interviewees that are explanatory for the organisational culture plot shape of the present PoR Authority

Culture Type	Adds up (+) Opposite (-)	Explanatory remarks from interviewees	Total weight of remark
Clan	+	Performance is nowadays communicated not only quantitatively but also the added value is seen as important. One of the biggest internal changes.	2
	+	Management shows partly the role of mentor, facilitator and stimulator	4
	+	Management is nowadays more involved on content level	2
	+	More and more organisational elements (Technostructure and Middle Management) instead of only Board of Directors are involved in development of business plan. Organisational identity is more and more seeping through the organisation.	2
	+	Based on experiences in the financial department, the PoA Authority seems to be a personal place.	1
	+	Employees of the PoA Authority are not mutually competitive, but try to achieve the same goal together.	1
	+	Five behaviour appointments nowadays are distributed and promoted in the PoA Authority. These are collaboration, trust, innovation (internal), respect and customer focused. Those appointments are spreaded and wellknown within the organisation and apply to everyone. EMployees are also evaluated on these core values.	1
	+	Higher focus on external communication for the creation of external support for the port and the development of it. This is on behalf of the total port community.	1
	+	The PoA Authority has a staff association, contributing to sustainable focus on personnel. Activities or rewards from the association are mostly port-related, which creates mutual pride to the port. Via the staff association the employees are triggered to interest and get involved in the port.	1
	+	Employees are proud and impressed about the port and the port activities.	1
	+	The more external and open focus of the PoA Authority that has emerged in the recent years influences the organisational culture. People beome more internally and extenrally oriented.	1
	-	PoA has a strong island culture with different kingdoms, especially in Operating Core, with	2

		delineated responsibilities.	
	-	Different departments do not feel connected, no we-feeling. Separate goals and drivers, not shared ambition. Organisational culture probably significantly different.	3
	-	Large difference in how different departments interpret and practicize corporate stratety, because PoA Authority is hybrid organisation (Management, public and commercial task)	2
	-	Organisation wide culture is hard to identify regarding the strong internal dynamics	2
	-	Nowadays the PoA Authority is a less personal place compared to times of DGD realisation, because organisation is becoming more structured	2
	-	No strong organisation wide feeling of working together for a corporate mission	2
	-	Loyalty, mutual trust and openness is not a strong characteristic	1
	-	Mutual trust and loyalty strongly depends on department. Also there is a large difference between permanent statutory employees and contract basis employees. Difference in work-drive.	1
	-	Trust from management towards team members is not very strong	1
Adhocracy	+	Dynamic, entrepreneurial and willing to stick out the necks (Only Operating Core)	1
	+	Organisational culture differs per project and department	1
	+	Organisational culture strongly depends on the set of responsible people	2
	+	Strategic focus is looking for new challenges. Within Policy Development department more focus on development of new innovative policies. Support for innovative ideas is increasing.	2
	+	Within the Port Authority sustainable port development is increasingly stimulated	2
	+	Collaboration is stimulated nowadays via ad-hoc multidisciplinary project teams	2
	+	PoA Authority is a dynamic organisation	3
	+	Organisational culture strongly depends on type of people in a team or department. Also strongly depends on type of team manager.	1
	+	Five behaviour appointments nowadays are distributed and promoted in the PoA Authority. These are collaboration, trust, innovation (internal), respect and customer focused. Those appointments are spreaded and wellknown within the organisation and apply to everyone. EMployees are also evaluated on these core values.	1
	-	PoA Authority does not seem to be typically dynamic and entrepreneurial, since making profit is not the main goal. Creating added value in a sustainable way is found more important.	1
Hierarchy	+	Board of Directors of PoA Authority is really politicized, strongly determines decision-making processes	1
	+	The PoA Authority is a bureaucratic organisation in which management style is a real bureaucracy with high demands	4
	+	Port Authority is a very controlled organisation with clear hierarchical lines	3
	+	Management is not typically entrepreneurial, innovative or taking risks	3
	+	No decisions are taken when not first being fully discussed	2
	+	Decision-making power is centralized, management does not easily delegate responsibilities	3
	+	Working on port development projects is done way more structured than before	5
	+	Management shows partly coordination, organisation and smooth efficiency	3
	+	Formalities and focus on policies are increasing	2
	+	Increasing structure and control from top of the organisation	5
	+	Increasing change to professionalize (however mentality sometimes missing still)	2
	+	People are not willing to stick their necks out	2
	+	Taking risks has reduced; because of standardization people are more committed to their goals.	2
	+	Organisational culture seems to be quite stable. However strongly determined by CEO	1
	+	The PoA Authority is a hierarchical organisation	1
	+	The PoA Authority is a structured environment with procedures and formal decision-making power distributions	1
	+	PoA Authority does not seem to be typically dynamic and entrepreneurial, since making profit is not the main goal. Creating added value in a sustainable way is found more important.	1
	-	Port Authority is not a structured organisation. A lot happens in an organic way.	2
Market	+	Top of Port Authority maintains a strong results-oriented top-down direction, however not aggressive	3
	+	Results-oriented job appointments are applied on department-level and employee-level. People are more results-oriented than before.	2
	+	In some departments people get a certain amount of freedom in performing their work. Freedom therefore to a certain extent fits management style.	2
	+	Binding factor is achieving results and formal rules	2
	+	Port Authority is a clear results-oriented organisation	2
	+	Port Authority is now taking a more active role than before (clear shift from passive landlord to active landlord) The PoA Authroity is seeking for and triggers potential synergies.	3
	+	Only some departments are competitive and performance oriented	2
	+	Mentality is shifting from governmental organisation to more competitive towards external world	1
	+	New generation is more striving	1
	+	People are willing to be front-runner, being quicker than competitors. Increasing pro-active attitude.	2
	+	The more external and open focus of the PoA Authority that has emerged in the recent years	1

		influences the organisational culture. People beome more internally and extenrally oriented.	
	+	Five behaviour appointments nowadays are distributed and promoted in the PoA Authority. These are collaboration, trust, innovation (internal), respect and customer focused. Those appointments are spreaded and wellknown within the organisation and apply to everyone. EMployees are also evaluated on these core values.	1
	-	PoA Authority does not seem to be typically dynamic and entrepreneurial, since making profit is not the main goal. Creating added value in a sustainable way is found more important.	1
		Other remarks	
		Culture of the Port Authority in times of DGD is very similar to the current situation	1
		More young people start in the PoA Authority, shift from statutory committed towards contractual committed.	1
		The Port Authority is dominated by Public Law	2

F. Overviews of changes in working approach

F.1 Maasvlakte 2 project

This part of the Appendix shows the timeline of organisational changes within the PoR Authority on two levels, namely on PMV2 level and on PoR Authority level. Based on the table of key events and involved stakeholders presented in Appendix 'C. PoR Authority and MV2 project', Table 43 covers the PMV2 level and shows what the new working approaches are applied for the first time in the PMV2 simultaniously with which MV2 key events.

Table 44 covers the PoR Authority level and shows what organisational changes within the PoR Authority took place simultaneously with which organisational change on PMV2 level.

Table 43 – Timeline (developed by researcher) of MV2 project
key events and simultaneous new working approaches in the PMV2

	Key Events MV2 project	Year	New working approaches firstly applied in the PMV2	
With the PKB (started in mid ninetees) the MV2 importance is acknowledged	PoR Authority realises that more capacity is needed to grow in future	2000>	PKB is exeptional because MV2 is a project for which exeptions and negotiation are possible regarding licenses needed for the zoning plan. Normally such projects are stricktly framed by permit procedures and criteria	
	Municipality of Rotterdam, Stichting Natuur en Milieu, Vereniging Natuurmonumenten and Consept close the agreement 'Visie en Durf'	2000		
	PKB is finished	2001		
		2002		
	State invests in PMR	2003		
Municipality of Rotterdam and Province of South Holland start negotiation about about financing of PMR	PoR Authority starts sighning contracts with the first terminal users, - owners and contractors			
Negotiations between State and Rotterdam (Municipality and Port Authority)PMR agreement is sighned by State, Province South Holland, and the City Region, Municipality and Port Authority of Rotterdam	State and PoR Authority agree on that PoR Authority will take total responsibility for MV2	2004	PMV2 is separate independant department within the PoR Authority with own decision-making structure, financial structure and meetings with top management. They report directly to General Director.	Organisational structure of PMV2 was well thought in advance. This simple and effective structure was not used in other projects of PoR Authority. This structure is maintained throughout entire project. Structure puts relatively high focus on communication department.Relatively high amount of external expertise brought inhouse to fully commit to MV2 project (However, only if not available within PoR Authority). High attention within the PMV2 on quality- and risk management. Much external feedback consulted.

		Year		
			PMV2 gets approval for using PRINCE2 management method. PMV2 is the first infrastructural project with successfull accreditation for PRINCE2 systematics. From start, processes are standardized and controlled with PRINCE2 as a measuring tool to acquire their position and proving they are fit for the job.	
			New contract design for agreements between PMV2 and utilitycompanies such as Eneco and Evides	Exeptional take up of responsibilities normally from Rijkswaterstaat by PMV2
			PMV2 works with issue procedure. A Review Team is composed for multidisciplinary assessment of an issue based on PRINCE2 principles	PMV2 works with Scope Management in which costs planning and scope management are brought together.
			Required tasks normally spreaded are now bundeled at one employee fully responsible	
			Projectplanners highly involved along project. They function as helping tool to foresee and solve potential problems	New milestone structure designed for MV2 project in which distinction is made between Project Milestones and Management Milestones
			CMO1 contract form, seprately managed by a MV2 department, is new within PoR Authority. Payment deadlines were halved especially for CMO1, resulting in close and smooth collaboration between PMV2 and contractors.	
	PKB gets destroyed by Council of State due to shortcomings at legal level (protection surrounding parties and citizens)	2005	Personality tests done on PMV2 management level to positively influence collaboration within the team. High variety was seen as precious.	Internal focus on quality management and sufficient argumentation increased. PMV2 becomes more results-oriented and external experts were consulted for feedback. Focus increase on quality of employee recruitment to strengthen goals and focus of PMV2
State and PoR Authority come to new agreement for MV2 realisation	State becomes co-shareholder of the MV2, meaning national level acknowledgement			
	Second Chamber gives greenlight for MV2		PMV2 obtains again authorization for the use of PRINCE2 accreditation.	
	Preparation phase of the MV2 Project (2006-2008)	2006	All objections from external parties handled 1 by 1 by taking risk-reducing measures and setting agreements with those parties and create win-win situations.	PMV2 starts to work with Strategic Environmental Management (SOM) to reduce risks in juridical processes and minimize change of claims from contractors and other external parties.Via SOM value is created for and among stakeholders. SOM includes face-to-face contact with external parties to obtain their support.
Ecological impact assessment is made in a Strategic environmental assessment (SMB)	Zero measurement is performed of the Northsea seabed to later investigate long-term impact			

	Industry and ecological and environmental organisations positive about MV2. OMP appreciates improved PKB			
	Second Chamber gives greenlight for PKB			
Dutch Parliament gives approval for 2nd phase MV2	Informational MV2 events organised for surrounding inhabitants			
	Both First and Second Chamber agree with planning decisions of the PKB			
	PUMA consortium is born, consisting of Boskalis and Van Oord. Involved via a 'Design & Construct' contract	2007		
CMO1 is established by the PMV2 to keep high control on progress and compliance of agreements	PoR Authority and APM sign agreement on conditions for container terminal at the MV2			
	MER (Extensive report for indication of environmental effects) of MV2 is developed			
	Construction phase of the MV2 Project (2008-2014)	2008		
	EIB makes €900 million available for MV2 construction			
4 environmental organisations, two umbrella organisations of industry, 3 ministeries, the Province, the Municipality, the City Region and the Port of Rotterdam come to an agreement to together control the compliance of the made agreements.	PoR Authority starts with MV2 contruction			
	Province of South Holland gives approval for MV2 zoning plans			
Milieudefence and PoR Authority sign the 'Overeenkomst Duurzame Maasvlakte' agreement resulting in emission studies	Foundation of wildlife projection and PoR Authority sign agreement about focus on wildlife during and after MV2 realisation.	2009		
	FutureLand (information point MV2) opens			
	Collaboration agreement signed by PMV2 and Foundation Next Generation Infrastructures to exchange knowledge and skills	2010	Exeptional agreement signed between PMV2 and internal Project Management department and external project managers in which all agree on the assignment of MV2 after finish of construction.	PMV2 offers departments within PoR Authority ability for cherry-picking from lessons-learned along MV2 project.
		2011		
RWG starts construction of container terminal on MV2	Construction of railway train connection towards MV2 is finished	2012	Director position shifts from Ronald Paul to René van der Plas	
PUMA finalizes 1st part of MV2 within planning, budget and quality requirements	MV2 officially opened for shipping	2013		
	Ballast Nedam selected as manager of dry MV2 infrastructure			

		Year		
PMV2 is being decomposed under a high focus of proper round-up. Management of the MV2 is being redistributed.		2014	PMV2 Management Team size adjusted to heaviness of MV2 project	PMV2 is being decomposed. Assets are being transferred to new managers.
PUMA coming ten years responsible for maintenance of MV2		>2014	PMV2 Board of Directors are frequently asked by external organisations throughout NL to share their success stories	

Table 44 - Timeline (developed by researcher) with new working approaches first applied within the PMV2 and simultaneous organisational changes within PoR Authority

New working approaches firstly applied in the PMV2		Year	Changes in working approach within the PoR Authority	
	PKB is exeptional because MV2 is a project for which exeptions and negotiation are possible regarding licenses needed for the zoning plan. Normally such projects are strcitkly framed by permit procedures and criteria	2000>	New approach for development of PKB in which all parties in environment are involved from start and all their interests are investigated and mapped	
		2000 -2003		
PMV2 is separate independant department within the PoR Authority with own decision-making structure, financial structure and meetings with top management. They report directly to General Director.	Organisational structure of PMV2 was well thought in advance. This simple and effective structure was not used in other projects of PoR Authority. This structure is maintained throughout entire project. Structure puts relatively high focus on communication department. Relatively high amount of external expertise brought inhouse to fully commit to MV2 project (However, only if not available within PoR Authority). High attention within the PMV2 on quality- and risk management. Much external feedback consulted.	2004	The Port Authority turns from a Municipal Port Authority into an autonomous organisation. It becomes independant from the State. Hans Smits is appointed as new CEO of PoR Authority.	PMV2 is established as sepatate independant department. It is new to compose a projectorganisation with own structure and line to Board of Directors and employees full-time focusing on the project.
Relatively high amount of external expertise brought inhouse to fully commit to MV2 project (However, only if not available within PoR Authority).	PMV2 gets approval for using PRINCE2 management method. PMV2 is the first infrastructural project with successfull accreditation for PRINCE2 systematics. From start, processes are standardized and controlled with PRINCE2 as a measuring tool to acquire their position and proving they are fit for the job.		Mandating regulations are being changed and implemented to gain control on employess and their responsibilities.	Recruitment of new expertise partly done internally and partly externally. Increase of expertise happens to anticipate on enrironmental legislation related requirements.
	High attention within the PMV2 on quality- and risk management. Much external feedback consulted.			
New contract design for agreements between PMV2 and utilitycompanies such as Eneco and Evides	Exeptional take up of responsibilities normally from Rijkswaterstaat by PMV2		PoR Authority not willing to roll-out new task structure in which one person is fully responsible for one type of task	

		Year	
PMV2 works with issue procedure. A Review Team is composed for multidisciplinary assessment of an issue based on PRINCE2 principles	PMV2 works with Scope Management in which costs planning and scope management are brought together.		
	Required tasks normally spreaded are now bundeled at one employee fully responsible		
Projectplanners highly involved along project. They function as helping tool to foresee and solve potential problems	New milestone structure designed for MV2 project in which distinction is made between Project Milestones and Management Milestones		Deliverables format from Zoning Plan department is made more userfriendly and attractive for Commercial Department
CMO1 contract form, seprately managed by a MV2 department, is new within PoR Authority. Payment deadlines were halved especially for CMO1, resulting in close and smooth collaboration between PMV2 and contractors.			
Personality tests done on PMV2 management level to positively influence collaboration within the team. High variety was seen as precious.	Internal focus on quality management and sufficient argumentation increased. PMV2 becomes more results-oriented and external experts were consulted for feedback.	2005	
Focus increase on quality of employee recruitment to strengthen goals and focus of PMV2	PMV2 obtains again authorization for the use of PRINCE2 accreditation.		
All objections from external parties handled 1 by 1 by taking risk-reducing measures and setting agreements with those parties and create win-win situations.	PMV2 starts to work with Strategic Environmental Management (SOM) to reduce risks in juridical processes and minimize change of claims from contractors and other external parties.Via SOM value is created for and among stakeholders. SOM includes face-to-face contact with external parties to obtain their support.	2006	Clear shift in policy focus; sustainable development is now taken more seriously into account in assessment framework
		2007	
		2008	
		2009	Changing mentality of certain department managers from politically driven towards collaborative working and sharing knowledge
Exeptional agreement signed between PMV2 and internal Project Management department and external project managers in which all agree on the assignment of MV2 after finish of construction.	PMV2 offers departments within PoR Authority ability for cherry-picking from lessons-learned along MV2 project.	2010	New agreement design developed by PMV2 is not rolled-out in PoR Authority.
		2011	
Director position shifts from Ronald Paul to René		201	PRINCE2 project management method rolled out in PoR

Key Events DGD project		Year		
van der Plas			Authority.	
		2013	Port Development and Commercial department are merged to improve clearness about responsibilities	
PMV2 Management Team size adjusted to heaviness of MV2 project	PMV2 is being decomposed. Assets are being transferred to new managers.	2014	Allard Castelein appointed as new CEO of PoR Authority who increases innovation as focus point	PoR Authority implements new task structure that was firstly adopted by PMV2
			Department Corporate Strategy significantly degreased in size and shifts towards being a denktank. Implementation now done with line of organisation.	Roll-out of Scope Management along port development projects is now being discussed within PoR Authority. Normally the 3 elements of projectcyclus operate individually along project whereas in PMV2 they are integrated via scope management.
	PMV2 Board of Directors are frequently asked by external organisations throughout NL to share their success stories	>2014	Port Development department has increased and changed. Couple departments are merged, resulting in complete process of new PoR development projects being done by one overarching department. Before, different teams of different departments were responsible for different project phases.	Standardization of work processes, standardized skills and of outputs is being rolled-out. Examples are SAP (control system for project management) and PRINCE2 and SOM.
			More and more bottom-up initiatives. Operating Core has more pro-active attitude and brings initiatives to the Strategic Apex which is more open for bottom-up input.	More and more cross-organisational project teams are being composed to work on projects.
			Communication towards project environment is more and more integrated in predefined project strategy	Personality-colour studies are done on management level of whole Port Authority.

F.2 Deurganckdok project

This part of the Appendix uses the timeline of key events in Appendix 'C.2 PoA Authority and DGD project' that was used in Section '3.1.3 Port of Antwerp & DGD project' to provide an overview of the key events of the DGD project and the simultaneous organisational changes within the PoA Authority in chronological order. This overview can be found in Table 45.

Along the interviews the lion's share of mentioned changes in working approach could not be clearly linked to an initial moment or to a key event along the DGD project, but were mentioned as observations over a longer time with no clear starting or ending point. Therefore all changes are separately overviewed that could not be clearly linked to a recent moment in time or to one of the DGD key events, but that are clear changes in working approach regarding PoA development projects. This overview is shown in Table 46. With arrows (→) the direction is indicated in which the organisational changes that relate to eachother are presented in the Table.

Table 45 – Timeline (developed by researcher) of DGD project key events and simultaneous new working approaches within the PoA Authority

Key Events DGD project	Year	Changes in working approach within the PoA Authority
Establishment of the authonomous Municipal Port Authority with the Municipality as 100% shareholder	1997	

		Year		
Decision is made by Flemish Government and Municipal Port Authority to build the DGD.	Framework decisions regarding DGD are made by Flemish Government	1998	Framework decision approach new for Flemish Government. It is chosen due to size of project and of the financial and environmental impact. Before, decisions regarding construction of a dock are isolated from eachother.	Strategy & Development department is formed that develops visions and strategies for Board of Directors. This department developed visions regarding DGD
	Complaints about potential impacts from local NGO's via EU Commission to the Flemish Government			
Management of DGD project shifts from Flemish level to PoA Authority.	Agreement on principles of strategic planning for 'Left Bank Port Development' signed by public actors	1999	With regard to the DGD project, no specifically planned changes happened on management level (like new departments) of the PoA Authority.	Head of PoA Authority gets the opportunity to recruit extra needed capacity for DGD project
			Instead of specific department for the DGD, internally people were brought together in a project group without predefined clear structures.	Transition on mental level in PoA Authority; people start being aware that environmental aspects (from liveability to conservation should be taken into account when building a doc
	Action committee 'Doel 2020', the 'Werkgroep Natuurreservaten Linkeroever' and the Flemish agrarian centre claim a hold			
	Compensation plans for future port expansion confirmed	2000	Left bank has more complex decision-making power distribution, different than Right bank. PoA Authority has no monopoly together with Antwerp Municipality on Left bank.	Initially, discussions about decisions are very informal. When this seems not effective Natuurplan 2000 is developed representing a 'nature development scheme' within which projects can be realized according to accepted housing and habitat guidelines.
Stakeholders (PoA Authority, Province Left bank, Province Right bank, Nature-NGO's, Farmers, a railway company) become part of strategic planning process	Earlier decision on 'viability' of Doel is suspended			
	First phase of DGD construction starts			
	Ongoing protest by NGO's and action committee 'Doel 2020' against project and principles			
New complaints via EU Commission reported by WNLW referring to lack of impact assessment in MER	The Council of State compels the Port Authority to improve the content of nature compensation in the MER.			
Juridical procedures at Administrative Court of Justice.	Council of State puts mandatory hold on DGD construction. Every day of delay it costs the PoA Authority €1,7 million		Dealing with housing and habitat by radically redeveloping the MER was new for Flemish Government. Main driver for taking new approach is high pressure imposed from Council of State.	While amount of arrests increase, PoA Authority develops an attitude to maximally convince EU Committee about being right in their plan and approach.
Preparations done by Flemish Government to create legal framework to enable a quick restart of DGD project	PoA Authority takes initiative to radically review MER (normally done by Flemish Government)			

		2001		
	Minister of Public Works submits new building permit		After juridical hold on DGD project, the PoA Authority and Flemish Government adopt a more active attitude than before	Since development of new MER that would comply with all EU nature legislations, the PoA Authority takes existence of legal procedures and guidelines way more serious
AGHA performs alarming study about potential traffic gridlock due to DGD	Decisions are implemented in regional zoning plan for Left bank and PoA			
	Start 2nd phase of Strategic Planning Process for Left bank area to reach consensus on port development in compliance with habitat and bird directive.			
Complaints from EU Commission to Flemish Government about strategic plan	Flemish Government gives permission for 2nd railway access			
AGHA asks Flemish Parliament for procedure decree which would enable bypassing judgements of Council of State	Strategic plans first need to be assessed by Dutch province board of Zeeland			
	Council of State puts mandatory hold on DGD construction for 2nd time			
New environmental impact study done by PoA Authority to recover critisisms of EU Commission	PoA Authority develops extensive compensation plan with high focus on nature losses. NGO's are partly involved.		Essential new focus on compensation made PoA Authority realise the benefit of fully understanding and taking into account legislations	Head of Infrastructure department recruits specific extra employees to anticipate on monitoring of strategic plan process and coordination of environmental studies. Those employees could play key role in decision-making. Before such key roles were absent.
			Collaboration between services and departments of PoA Authority strengthened to increase progress in DGD project	
Environmental Impact Assessment (EIA) - compensation plan is accepted by Flemish Parliament	EIA-compensation plan includes protocol between public actors to share responsibilities regarding implementation. Plan includes installation of Management Committee and monitoring by institute of Nature Conservation.		Management Committee is new initiative to put high control on realisation of compensation plan.	New protocol between public actors is developed to share responsibilities of compensation plan
	Action committee 'Doel 2020' willing to accept DGD construction under certain conditions			
However, juridical procedures initiated by action committee 'Doel 2020'	Support from environmental movement due to EIA-compensation plan. They become partner of PoA Authority			
Flemish Parliament willing to approve procedure decree that was requested by AGHA and thereby acknowledge the strategic need for quick realisation of DGD	Action committee 'Boerenbond' disagrees with nature compensation plansincluded in validation degree			
	Flemish Parliament approves emergency degree to stop financial losses increase as cause of the project hold			

		Year	
	Public research should be done for 3rd time by PoA Authority to obtain environmental permits, causing extra delay	2002	Management Committee is installed, being responsible for supervision measurements and follow and evaluate measurements along further realisation of DGD project
Doel inhabitants refuse to accept Flemish Parliament decision to continue DGD construction	Construction of DGD continues		
Council of State rejects DGD regional plans, however without effect due to emergency degree provided by Flemish Government	Rejection of Council of State and delays in DGD construction results in loss of trust from MSC (largest client of PoA)		
Dozens of Doel farmers are expropriated from their land.	Action committee 'Doel 2020' consults the European Court of Human Rights in Straatsburg.		
		2003	
		2004	
	First phase of DGD finished; DGD taken into use	2005	

Table 46 – Overview (developed by researcher) of organisational changes within the PoA Authority with no clear link to DGD project or no clear recent starting or ending point ('→' indicates the direction in which the organisational changes that relate to eachother are presented in the Table)

Year	Organisational changes within the PoA Authority with no clear link to DGD project		
2010	Turning point in amount of permanently appointed employees to more contractually binded employees	Reorganisation within PoA Authority for which DGD might have been an accelerator	PAI is established as organisation that supports other ports over the world to develop their port and logistic infrastructure. Example of transition from a passive landlord port to an active landlord port.
2011	Incremental but clear shifts in key role of PoA; from passive landlord (merely management of port) towards an active landlord (pro-actively facilitating entire community) and promotional facilitator within port community.	Support Staff departments get a more and more prominent role and fall more under Operating Core to become more involved with daily business of PoA.	Behaviour appointments are defined and promoted internally and apply to everyone. These are collaboration, trust, innovation (internal), respect and customer focus.
2012	Commercial department, Concessions department, Marketing department and Patrimony Management department increased and strengthened.	Business plan of PoA Authority includes higher focus on communication of PoA Authority goals. Information sessions are held for top-down communication of the goals throughout organisation.	
2013	External consultant is deployed to help HR and legal services departments to increase effectiveness by the implementation of standardization. Standardization is increasing within different	Business plan now includes increase of supporting service disciplines. Before the PoA Authority employed few specialists.	

departments.

Organisational changes within the PoA Authority with no clear link to a recent moment in time

→ Significant increase among PoA Authority employees in focus on business plan.	Number of departments have more pro-active policy. They try collaborating with external parties to together realise projects within PoA. Departments with strategic/ commercial focus are changing and adapting to strategic focus of PoA Authority.	Significant increase of departments of environmental affairs, commercial affairs and staff affairs to focus more on networking and contacting companies.	Department of juridical services has turned from passive and having completely no response to organisational policies, towards active as being part of policy department with more space to respond to organisational policies. Such an entity did not exist before within PoA Authority.
Shift in function descriptions since DGD to improve internal functioning.			Department of environmental issues moved within organogram to a clear environmental focused component. Currently this department is increasing (from 6 to 30 in 12 years) and evaluated from totally passive towards pro-active regarding environmental challenges. Department Infrastructure and Environment has responsibility to keep track on environmental policies. Follow up and internal communication are mainly done by department Policy Development.
→ PoA Authority now focuses on having the role of managing whole port community in combination with providing employment. Unity and control are slowly more seen as high priorities.	Several departments within PoA Authority have more pro-active policy and have a more externally oriented mentality. They try to collaborate with external parties and stakeholders. This is also due to appointed project teams being fully responsible for a project. However this is not an overall horizontal trend yet.	PoA Authority developed new body for stakeholder meetings on monthly basis to create coalitions for initiatives and keep awareness on environmental issues high.	
→ Several departments that used to have 'island mentality' are more externally oriented towards stakeholders and their interests. However not horizontal trend yet.	Different departments start to work together in order to manage plan process together.		
→ Mainly due to DGD project the PoA Authority became more aware of all environmental factors to take into account along PoA development projects	Incremental awareness increase on level of authorative positions. Employers that used to do only construction work now more trained as internal consultant for nature conservation in coherence with port development.	People not yet automized new way of thinking (high focus on nature compensation and collaboration with all involved stakeholders). People find it complex.	

	PoA Authority achieves successes with new approach of integration of goals such as naturalness, safety and accessibility		
	Until the top level of the Port Authority, the previous way of thinking is slowly replaced by the new way of thinking, however this evaluates slow in top of operational service departments who are still mainly employed with people hardly involved or familiar with more broad interests of the port because they are hardly involved in strategic decision-making.	Implementation of strategies of the orgnisational board of directors is very dependant on the middle manager of a certain department.	
→	Support Staff and Operating Core are now operating less isolated and are more devided among different directors.	Throughput of input from Technostructure and Operating Core to Strategic Apex is increasing	Since the previous couple of years more organisational elements are involved nowadays in development of business plan. Board of Directors consults Technostructure and Middle Management.	Since few years Management Days are organised by which Board of Directors want to increase Middle Management involvement.
→	PoA Authority developed new body for stakeholder meetings on monthly basis to create coalitions for initiatives and keep awareness on environmental issues high.	Awareness about the need of project teams for large-scale and for new projects has developed. Nowadays such project teams are more structured than before.		
→	PoA Authority currently focuses on Ontwikkelingszone Saegtinghe as area in which port will expand in future. Structures are being organized and standardization of processes in which time management and risk management are taking place, to fully anticipate on this expansion.	After DGD project, plans for definite delineation of the port area are developed. Simultaneously the plan arises to develop definite nature maintanence plan to enable port development in coming 20 years under the ensurance of concequent application of European bird- and habitat guidelines.	Management Committee developed in a splitted structure for Left bank and for Right bank.	Higher focus on external communication for the creation of external support for the port and the development of it. This is on behalf of the total port community.

G. List of Figures

H. List of Tables

I. Work plan

This Appendix includes the work plan of the research proposed. Figure 36 shows the pursued planning. An indication is made for the different steps that are proposed in order to answer the research sub-questions. The planning has been checked frequently and adapted in case indications seem to be made incorrectly. Important moments were the Kick-off meeting, the Mid-Term meeting, the Go/No-Go meeting, delivery of final report and finally the thesis defence.
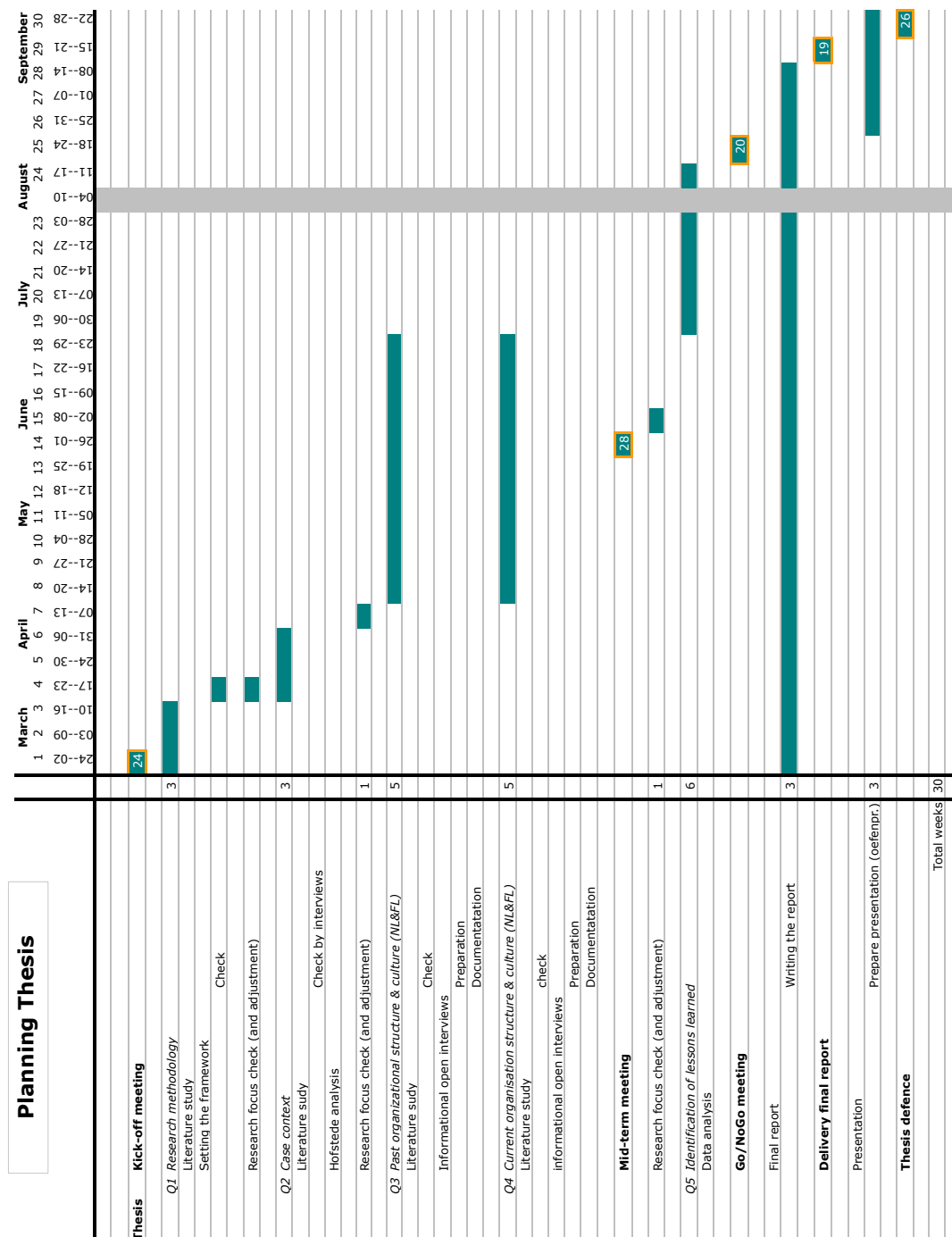

Figure 36 - Thesis research timeline of activities